Draft Resource Management Plan
for
Lusardi Creek Preserve
San Diego County

May 2009

PARKS AND RECREATION
COUNTY OF SAN DIEGO
Where having fun is natural.

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

Lusardi Creek Preserve (Preserve) consists of approximately 194.5 acres located along the northern boundary of the City of San Diego, slightly southeast of the community of Rancho Santa Fe and west of the community of 4S Ranch (Figure 1). The County acquired the Preserve in 1999 for inclusion in the South County Multiple Species Conservation Program (MSCP) preserve system. The Preserve consists of very high value native habitats, as well as areas that have been marginally impacted by human activities including utility access roads that also serve as trails.

1.1. Purpose of Management Plan

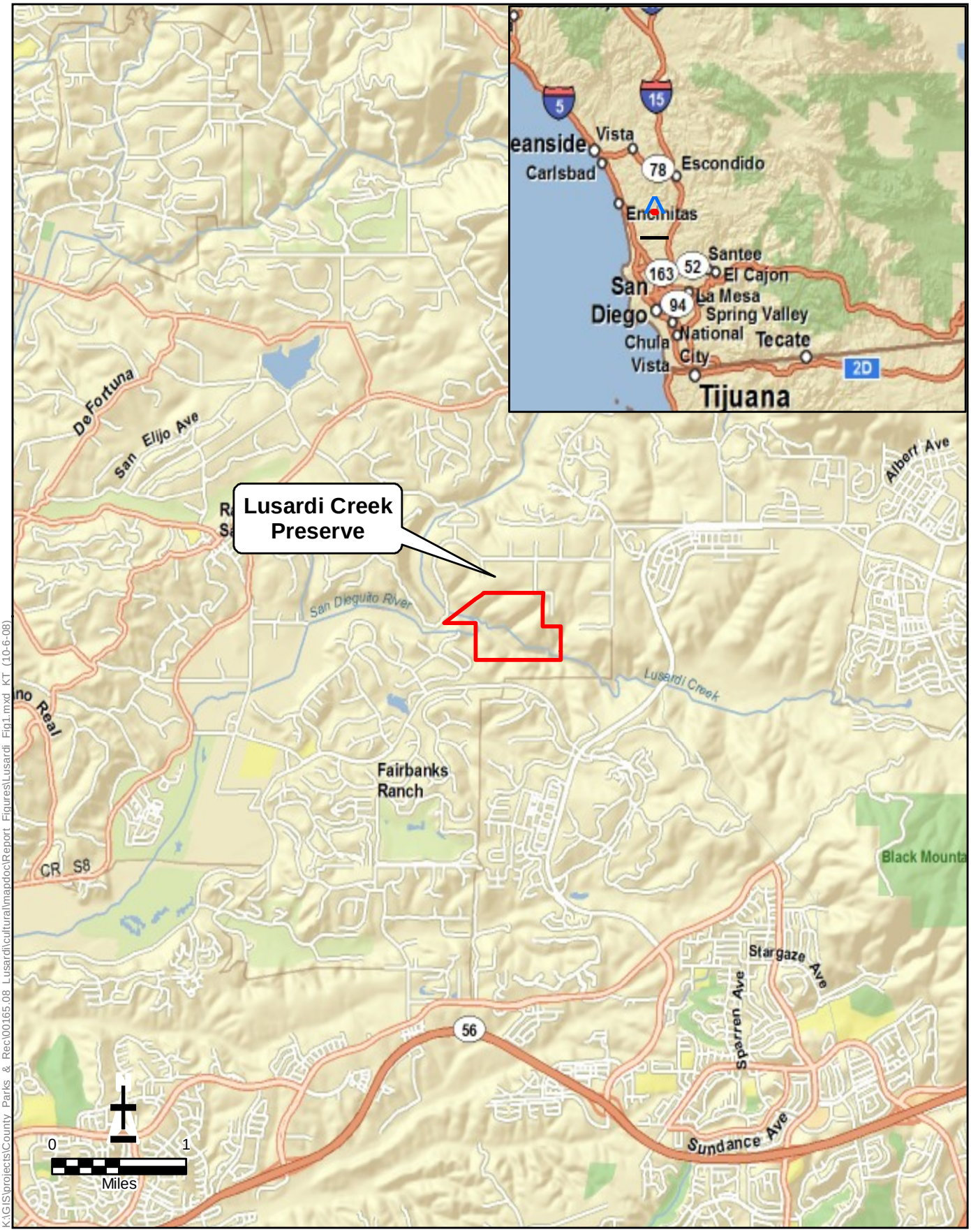
This Resource Management Plan (RMP) has been prepared as a guidance document to manage and preserve the biological and cultural resources within the Preserve, and to provide Area-Specific Management Directives (ASMDs) pursuant to the requirements of the County's Multiple Species Conservation Program (MSCP) Subarea Plan (County 1997) and Sections 10.9A and 10.9B of the Framework Management Plan (County 2001). These sections specify that the County will be responsible for managing lands which it owns or acquires within the MSCP preserve system.

This RMP will:

a) guide the management of vegetation communities/habitats, plant and animal species, cultural resources, and programs described herein to protect and, where appropriate, enhance biological and cultural values;
b) serve as a guide for appropriate public uses of the property;
c) provide a descriptive inventory of the vegetation communities/habitats, plant and animal species, and the archaeological and/or historical resources that occur on this property, and;
d) establish the baseline conditions from which adaptive management will be determined and success will be measured; and provide an overview of the operation and maintenance requirements to implement management goals.

Chapter 5 of this RMP includes ASMD's for Lusardi Creek Preserve.

It is recognized that the County owned land is only a small portion of the MSCP preserve system. The County does ensure management of other lands that are dedicated as a conservation easement for discretionary project mitigation, through requiring land developers to prepare Resource Management Plans. The County will spearhead a larger coordinated effort to ensure that other conserved lands in the area that make up the MSCP Preserve are also being monitored and managed consistent with this RMP and the overall goals of the MSCP Plan and County's MSCP Subarea Plan when a regional funding source is identified pursuant to Section 10.9C of the Framework Management Plan.



K:\GIS\projects\County Parks & Rec\00165.08 Lusardi\cultural\mapdoc\Report Figures\Lusardi Fig1.mxd KT (10-6-08)

SOURCE: ESRI Street Map (2008)

ICF Jones & Stokes
an ICF International Company

Figure 1
Regional Location Map
Lusardi Creek Preserve

1.1.1 MSCP Background

The MSCP is a cooperative habitat program that encompasses 582,000 acres and establishes a 172,000-acre preserve system in southwestern San Diego County. The MSCP covers 85 plant and animal species and 23 vegetation communities. Agencies participating in the MSCP include the County, other local jurisdictions, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Local jurisdictions and special districts implement their respective portions of the MSCP Plan (City of San Diego 1998) through Subarea plans, which describe specific implementing mechanisms for the MSCP. The combination of the subregional MSCP Plan and Subarea plans serve as a Multiple Species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA), the Natural Community Conservation Planning (NCCP) Program pursuant to the California NCCP Act of 1991 and the California Endangered Species Act (CESA). Lusardi Creek Preserve is owned and operated by the County and is included under the County of San Diego South County MSCP Subarea Plan (County of San Diego, 1997).

1.1.2 County Subarea Plan

The South County MSCP Subarea Plan (MSCP Subarea Plan) was adopted in October 1997. The MSCP Subarea Plan is subdivided into three segments: Lake Hodges, South County, and Metro-Lakeside-Jamul, with Lusardi Creek Preserve located in the Lake Hodges segment. The Lake Hodges segment preserve is a combination of: (1) projects that have been approved; (2) properties on which negotiations for open space have been completed; and (3) publicly owned lands. The preserve consists of open space areas set aside in connection with the following projects: (1) Rancho Cielo, (2) 4S Ranch, (3) Santa Fe Valley and (4) Madura projects. Agreements between the landowners, County staff, USFWS, and CDFG were conducted on all four private projects, either to establish “hard lines”, for the Lake Hodges Segment preserve or as part of the 4(d) Habitat Loss Permit process.

1.1.3 Framework Management Plan and Area-Specific Management Directives

According to Section 6.3.1 of the MSCP Plan and as a condition of the Implementing Agreement with the Wildlife Agencies (Section 10.10), the County was required to prepare a Framework Management Plan for the portion of the MSCP Preserve within the MSCP Subarea Plan’s boundaries. The document was submitted to the Wildlife Agencies on August 31, 2001. The Framework Management Plan sets forth management goals and objectives, along with general management directives that apply to all areas of the MSCP Subarea Plan.

The Framework Management Plan also incorporates a requirement for the subsequent preparation and implementation of ASMDs. These directives are required to be developed following baseline surveys using generally accepted practices and procedures for management of biological preserves, and in compliance with the criteria established by the Framework Management Plan. They

are intended to be specific management actions that are appropriate for the habitats and species found in a local area and take into account the particular circumstances of the given area. In addition to addressing the general directives of the Framework Management Plan and species-specific management requirements of MSCP Table 3-5, ASMDs are required to address fuel management activities.

1.2. Implementation

1.2.1 Management Approach

A key concept of the MSCP is the use of "Adaptive Management Techniques" directed at the conservation and recovery of individual species. This term refers to modifying management actions when monitoring of the resources indicates that changes are needed. It is particularly useful where there is uncertainty regarding the efficacy of certain management measures and/or the needs of target species. Adaptive management and an associated monitoring program are designed to inform land managers of the status and trends of covered species, natural communities, and landscapes in a manner that provides data to allow informed management actions and decisions.

It is anticipated that the recommended management actions provided in this RMP will be dynamic in nature. Applying adaptive management, the effectiveness and appropriateness of recommended management actions would be determined through review of management goal and objective achievement so that changes can be made to management directives and implementation measures as needed. Adaptive management techniques depend upon the specific issues impacting the resources. Therefore, the techniques herein may be subject to change or revisions when applied. Additionally, the monitoring protocols/requirements for MSCP covered species and habitats will be revisited periodically by participants of the MSCP and are subject to change based on adoption of updated protocols. It is anticipated that this RMP will be revised once every five years, as needed. The RMP may be revised on a shorter time scale if there is a change in circumstance, for example, acquisition of additional Preserve land.

1.2.2 Responsible Parties/Designation of Land Manager

The County is responsible for management, biological monitoring, and meeting the conditions of MSCP coverage on County-owned lands conserved as part of the MSCP Preserve system. The Preserve is fully owned and operated by the County Department of Parks and Recreation (DPR) and the DPR District Park Manager assigned to the Preserve is the land manager. DPR (District Park Manager and staff of the Resources Management Division) will be responsible for the implementation and enforcement of the RMP.

The Preserve is located in the management district of one senior park ranger, one park rangers, and one park attendant. The Preserve is patrolled once a week. It is

expected that many of the implementation measures, especially the maintenance tasks, will be carried out by the rangers who are most familiar with the site and currently patrol the Preserve.

1.2.3 Regulatory Context

The County's park rangers manage County parks and enforce preserve rules and regulations pursuant to San Diego County Code of Regulatory Ordinances Title 4, Division 1, Chapter 1 County Parks and Recreation. In addition, per County Code of Regulatory Ordinance Sec 41.111, 41.112, 41.113, all wildlife, plant, historical artifacts, and geologic features are protected and are not to be damaged or removed. Any person who violates any provision of Sections 41.111, 41.112, 41.113 is guilty of a misdemeanor as provided in Sections 11.116, 11.117, and 11.118 of this Code, punishable by fines up to $2,500 a day for each day the person violates these sections. The park rangers will contact law enforcement who will cite the offending individual. In addition, if an individual does not comply with signs within a facility and ignores park ranger instructions, the individual could potentially be charged with a misdemeanor by law enforcement.

1.2.4 Limitations and Constraints

Implementation and the timing of many of the management directives will be based on funding in any fiscal year and will be determined through the DPR Operations Division who will prioritize preserve needs in their work plan for the fiscal year based on the priority of the directives in the RMP for each preserve.

2.0 PROPERTY DESCRIPTION

2.1 Legal Description

The Preserve property is specifically located just north of San Dieguito Road, west of Del Sur and south of Artesian Road (Figure 2). On the USGS 7.5' Rancho Santa Fe Quadrangle, most of the Preserve lies within the southern half of Section 26 with a small portion extending to the west into Section 27 of Township 13 S, Range 3 W. The Assessor's Parcel Numbers for the Preserve are 267-142-25, 29, 30; and 269-100-17.

2.2 Geographical Setting

The geographical setting within the Preserve is characterized by the Lusardi Creek Valley running through the southern portion with the larger San Dieguito River Valley immediately adjacent to the west. The Preserve contains an upland area dissected by small tributary drainages to Lusardi Creek that have created several narrow, steep canyons or ravines (Figure 2). Elevations range between approximately 119 m (390 ft) Above Mean Sea Level (AMSL) at the north-central edge of the Preserve, to approximately 24 m (80 ft) AMSL in the west-central edge of the Preserve along the bottom of Lusardi Creek near the confluence with the San Dieguito River.

ICF Jones & Stokes
an ICF International Company

Figure 2
Preserve Vicinity Map
Lusardi Creek Peserve

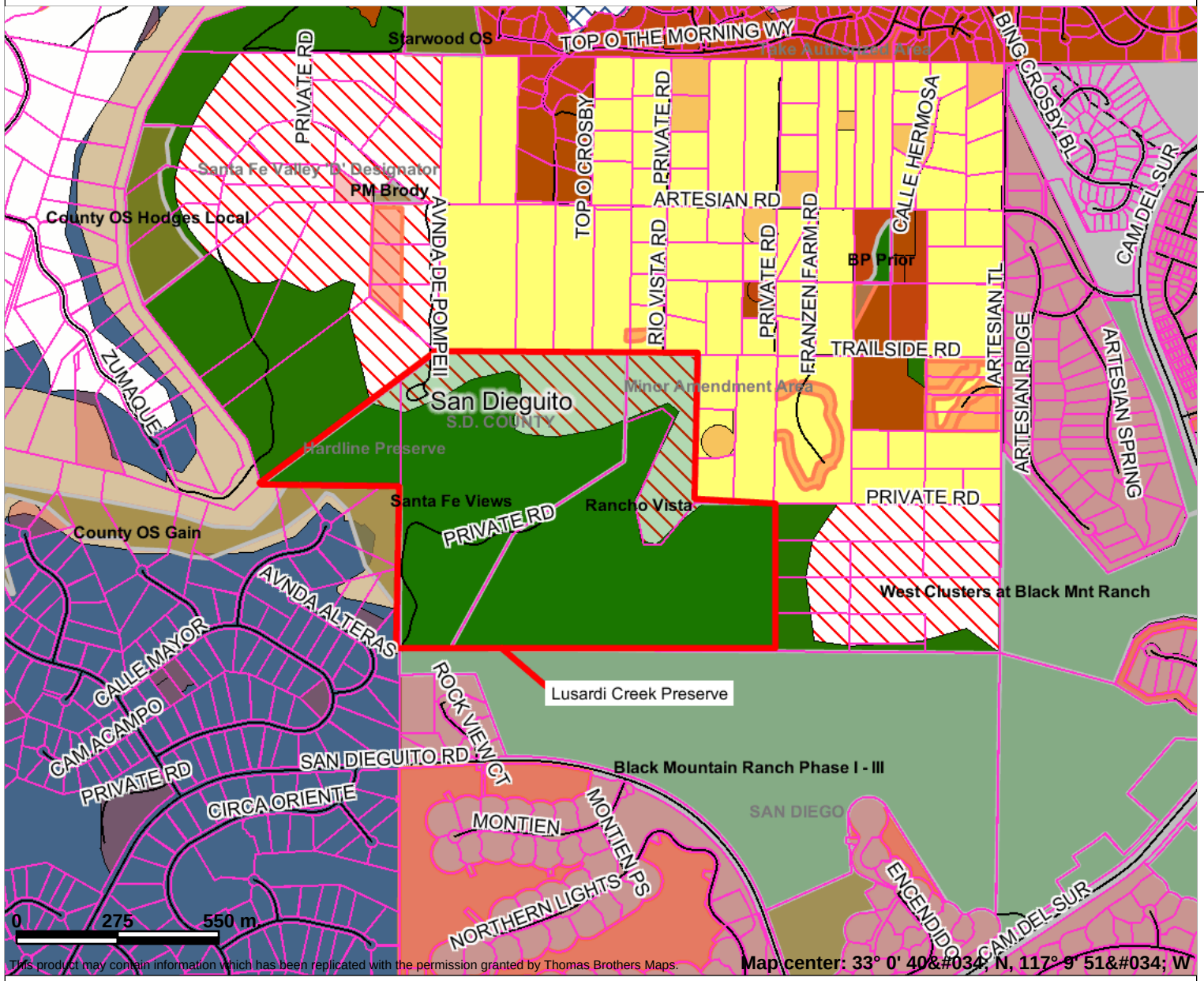
2.2.1 Site Access

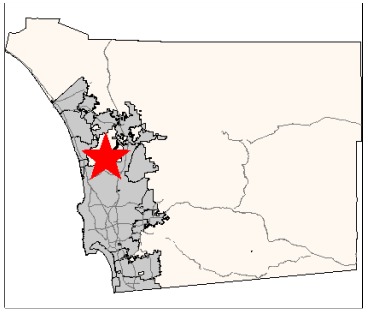
Existing access points to the Preserve (see Figure 7) include: 1) gate on existing dirt road within Preserve located south of Rio Vista Road; 2) gate located off of an SDG&E access road in the northwestern area of the Preserve; 3) gate on western border of Preserve off of Olivenhain Municipal Water District easement road; and 4) gate on southwestern corner of Preserve off of an SDG&E access road. New gates will be installed at the northeastern and northwestern corner of the Preserve and a pedestrian and equestrian access structure will be installed at the border of the Preserve directly off of Rio Vista Road.

2.2.2 MSCP Context

The Preserve is included within the Lake Hodges segment of the MSCP Subarea Plan. The Preserve is designated as Hardline Preserve and approximately 40 acres in the northern area of the Preserve is designated as Santa Fe Valley “D” Designator (Figure 3). The Santa Fe Valley development is located to the north and east of the Preserve, open space and residential development to the south within the City of San Diego, and residential development in the MSCP Subarea Plan Metro-Lakeside-Jamul segment to the west.

Figure 3. MSCP Designations and Adjacent Conserved Lands





Legend

- Parcels with out labels
- Highways
- Freeways
- Streets

Water Bodies

- Water Bodies

Habitrak 2005 Data

- Habitrak Gain
- Habitrak Loss
- Biological Open Space Easements

MSCP_Designations - South

- Hardline Preserve
- Pre-Approved Mitigation Area (PAMA)
- Major Amendment Area
- Minor Amendment Area
- Minor Amendment Area Subject to Special Considerations
- Conserved Subject to Agreement with Wildlife Agencies
- Santa Fe Valley Open Space II
- Santa Fe Valley 'D' Designator
- Otay Ranch Areas Where No Take Permits will be Issued
- Take Authorized Area
- Unicorporated Land in Metro-Lakeside-Jamul Segment
- Other

Sponsor Groups

- Sponsor Groups
- Other

Community Planning Area

- Community Planning Areas

N

Scale: 1:16,237

Map center: 33° 0' 40" N, 117° 9' 51" W

County of San Diego Department of Planning and Land Use DPLU GIS SanGIS

2.3 Physical and Climatic Conditions

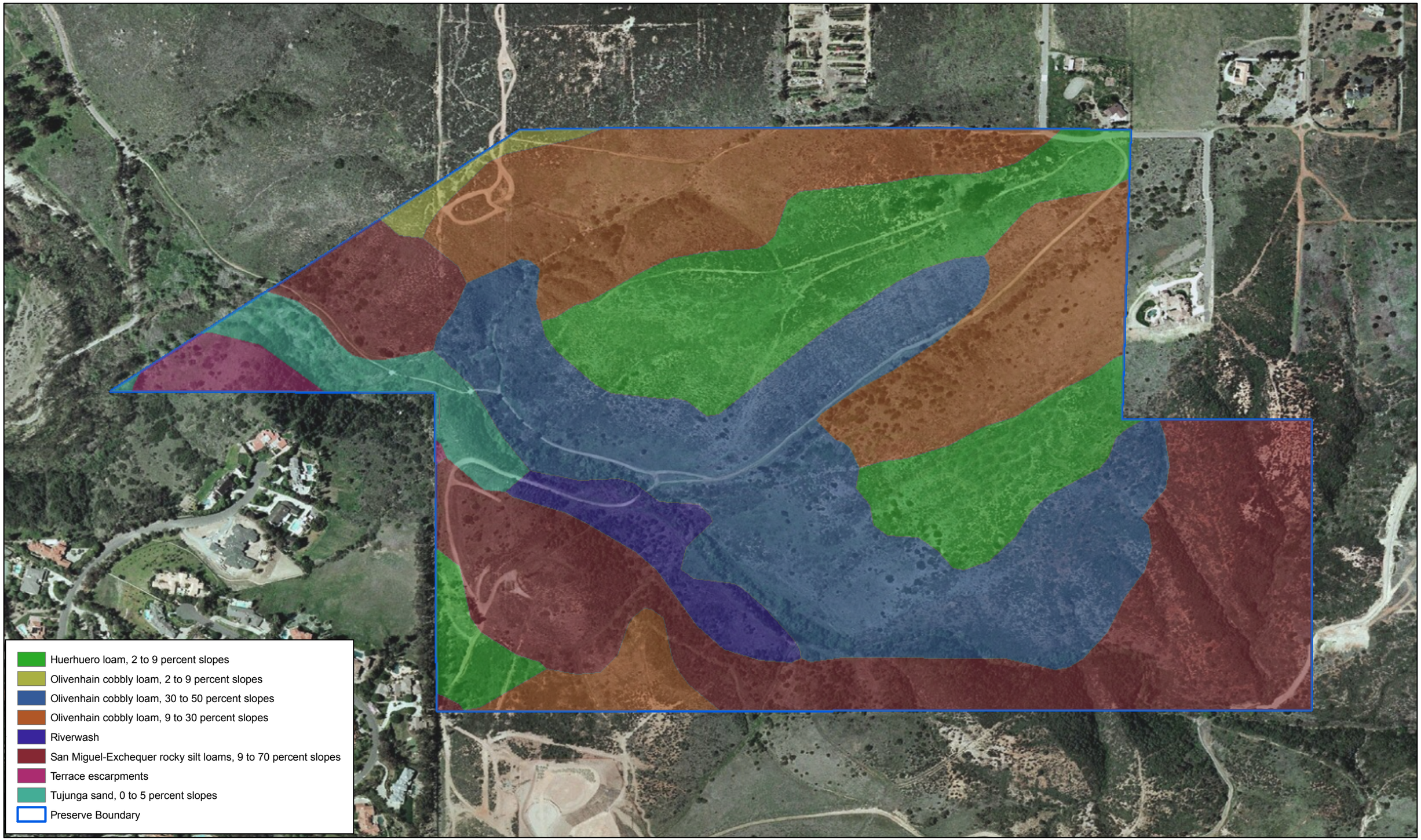
2.3.1 Geology and Soils

The Preserve contains three distinct geologic categories of bedrock: pre-Cretaceous metamorphic rocks of the Bedford Canyon Formation, pre-Cretaceous metavolcanic rocks of the Santiago Peak Volcanics Formation, and Eocene sedimentary rocks of the Poway Conglomerate Formation (Strand 1962). The pre-Cretaceous metamorphic rocks are located only in the southeast corner of the Preserve. The pre-Cretaceous metavolcanic rocks are also exposed mostly in the easternmost and southeastern areas of the Preserve, but several boulder outcrops are also exposed in other places particularly along the steep ravines and bluffs on the Preserve. The Eocene sedimentary Poway Conglomerate Formation is present over most of the rest of the Preserve. The pre-Cretaceous metamorphic rock types are described by Strand (1962) as consisting of interbedded black to dark-gray argillite (metashale), slate, quartzite, graywacke, local conglomerate, and dark-colored recrystallized limestone. The Santiago Peak Volcanics Formation is described as predominantly dark-colored flows, tuff, breccias, and agglomerate of predominantly andesitic rocks. The Poway Conglomerate Formation, which overlies these metamorphic rocks on the Preserve, is now recognized as consisting of several distinct formations including the Stadium Conglomerate, the Mission Valley Formation, and the Pomerado Conglomerate. Now referred to as the Poway Group, these formations variously contain rounded-cobble conglomerate and sandstone with lesser occurrences of siltstone and mudstone. Also present in narrow bands along the banks of Lusardi Creek are more recent sediments of Pleistocene and/or Holocene age sediments (Strand 1962; Weber 1963).

Several general soil associations are represented within the Preserve: Huerhuero series, Olivenhain series, Riverwash, San Miguel-Exchequar, Terrace escarpments, and Tujunga series (Figure 4). Each of these soils and soil series is described in detail below.

Huerhuero

This soil series consists of moderately well drained loams that have a clay subsoil. These soils developed in sandy marine sediment and are typically found on slopes ranging from 2 to 30 percent with elevation ranging from 3 to 122 m (10 to 400 ft). In a representative profile the surface layer is brown and pale-brown, strongly acid and medium acid loam about 31 cm (12 in) thick. The upper part of the subsoil is brown, moderately alkaline clay and extends to a depth of about 104 cm (41 in). Below this, and extending to a depth of more than 152 cm (60 in), is a brown, mildly alkaline clay loam and sandy loam. The specific soil type found in the Preserve is Huerhuero loam (2 to 9 percent slopes, eroded). Within the Preserve this soil type primarily supports chamise chaparral and Diegan coastal sage scrub. Sensitive plant species found on this soil type include San Diego barrel cactus, variegated dudleya, California adolphia, Robinson's pepper grass,



ICF Jones & Stokes
an ICF International Company

N

0 200 400 800
Feet

Figure 4
Soils
Lusardi Creek Preserve

Olivenhain

This soil series is characterized by well drained, moderately deep to deep cobbly loams and is usually found on slopes ranging from 2 to 50 percent. It is found on dissected marine terraces at elevations ranging from 30–183 m (100–600 ft). The surface layer is usually 25 cm (10 in) thick and moderately acidic. The topsoil is brown and reddish-brown and cobbly loam in texture. The subsoil is reddish-brown, red, and pink in color, strongly acidic, very cobbly clay and clay loam and is about 81 cm (32 in) thick. The substratum is pinkish-white in color and strongly acidic. Runoff is medium to rapid and the erosion hazard is moderate to high. The specific soil type found in the Preserve is Olivenhain cobbly loam (2 to 9 percent slopes, 9 to 30 percent slopes and 30 to 50 percent slopes). Within the Preserve Olivenhain soils primarily support non-native grassland and valley needlegrass grassland. Sensitive plant species found on this soil type include San Diego barrel cactus, variegated dudleya, California adolphia, San Diego marsh elder, small flowering morning glory, western dichondra, Palmer's grappling hook,

Riverwash

This soil type occurs in a small area within the stream banks along the San Diego River. Riverwash is a term used to collectively refer to unconsolidated sands, gravels, and cobbles that occur in intermittent or ephemeral stream courses. This soil is often barren due to scour from storm events. This soil type occurs exclusively along the river bottom. Within the Preserve Riverwash soils support southern willow scrub. Sensitive plant species found on this soil type include California adolphia and San Diego marsh elder.

San Miguel Exchequar

This soil series is characterized by well drained silt loams over metavolcanic rock and is usually found on slopes ranging from 30 to 75 percent. These soils are located in mountain uplands between 122 m (400 ft) and 1,006 m (3,300 ft). The series consists of 50 percent San Miguel silt loam, 40 percent Exchequar silt loam and 10 percent rock outcrops. The surface layer is usually yellow red silt sandy loam underlain by clay and then metavolcanic rock. Permeability is slow to moderate and runoff is medium to rapid. The specific soil type found in the Preserve is San Miguel-Exchequar rocky silt loam (9 to 70 percent slopes). Within the Preserve southern mixed chaparral and southern maritime chaparral are found on San Miguel-Exchequar soils. Sensitive plant species found on this soil type include San Diego barrel cactus, California adolphia, graceful tarplant, Nutall's scrub oak, San Diego marsh elder, southwestern spiny rush, summer holly, Del Mar manzanita, western dichondra

Terrace Escarpments

These escarpments are steep to very steep that occur on the even fronts of terraces or alluvial fans. This soil is usually found between narrow floodplains and the adjacent uplands and steep sides of drainage ways. Non-native grassland and southern mixed chaparral occur on terrace escarpment soils within the Preserve. Sensitive plant species found on this soil type includes graceful tarplant.

Tujunga

This soil series is characterized by very deep excessively drained sands derived from recent granitic alluvium and is usually found on slopes ranging from 0 to 5 percent. These soils are located on alluvial fans and floodplains between sea level and 457 m (1,500 ft) AMSL. The surface layer is usually brown sand approximately 36 cm (14 in) thick, over pale brown coarse sand over 152 cm (60 in) thick. Permeability is rapid in this soil and runoff is very slow. The specific soil type found in the Preserve is Tujunga sand (0 to 5 percent slopes). These soils occur within the southern willow scrub found along the western most portion of Lusardi Creek. Sensitive plant species found on this soil type include California adolphia, San Diego marsh elder, and southwestern spiny rush.

2.3.2 Climate

A semi-permanent, Pacific high-pressure cell, located over the Pacific Ocean, dominates San Diego County's climate. This cell drives the dominant on-shore circulation, maintaining clear skies for much of the year. Summers in the Preserve are typically warm and dry, while winters are mild with occasional rain (USDA 1973).

The Western Regional Climate Center, a collaborative project of the National Oceanic and Atmospheric Agency and the Desert Research Institute, maintains a climatic station in San Diego – the closest such station to the Preserve. Data collected at the station indicate that the area experiences a normal mean temperature of approximately 63 degrees Fahrenheit (^{o}F), with a mean maximum temperature of 69 ^{o}F and a mean minimum of 56 ^{o}F. In a normal year, precipitation on the Preserve averages 23 cm (9 in) and falls mostly in the winter and spring (San Diego County Flood Control District 2007).

A predominant feature of the local climate is the sea-breeze/land-breeze cycle. During the daytime, particularly in the summer, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). Easterly land breezes of approximately two to four mph often occur at night. Surrounding rugged terrain, which induces turbulence into the airflow, modifies the influence of this cycle. This cycle is also periodically affected by land airflow that dominates weather patterns. The most widely recognized of these are the Santa Ana conditions, during which strong, hot and dry easterly winds prevail for two- or three-day periods.

2.3.3 Hydrology

The Preserve is situated within the San Dieguito River Watershed. Designated beneficial uses for the San Dieguito River and its tributaries include municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; warm freshwater habitat; cold freshwater habitat; wildlife habitat; and rare, threatened, or endangered species habitat (California Regional Water Quality Control Board San Diego Region 2003). Lusardi Creek traverses the southern portion of the Preserve and eventually flows into the San Dieguito River just west of the Preserve boundary (Figure 5).

2.3.4 Fire History

According to the County fire burn data, the majority of the Preserve burned in the 2007 Witch Fire (Figure 5).

2.4 Land Use

2.4.1 On-Site Land Use

The Preserve consists of native habitat and is open to the public for passive recreational use. Three miles of trails extend northeast-west across the Preserve originating from Rio Vista Road and mostly follow the Olivenhain Municipal Water District access road. In addition, SDG&E access roads are located in the northwest area of the Preserve.

2.4.2 Adjacent Properties

The Preserve is located approximately 0.15 mile east of the San Dieguito River. Open space lands are located northwest and south of the Preserve, sparse rural residential development to the north and northeast, and a residential community to the southwest. Portions of the open space parcels directly adjacent to the northwest area of the Preserve are owned and managed by the Rancho Santa Fe Homeowner's Association and the others privately owned. The City of San Diego owns and manages the opens space parcels to the south of the Preserve. Open space associated with the 4S Ranch development to the east of the Preserve is managed by Joaquin Meza.

2.4.3 Easements or Rights

Several easements are present within the Preserve. San Diego Gas & Electric (SDG&E) retains an easement for two overhead power lines that traverse the Preserve from north to south through the western portion of the Preserve (Figure 6). Olivenhain Municipal Water District (OMWD) also maintains an easement on the dirt roads located in the western portion of the Preserve to access their infrastructure.

ICF Jones & Stokes
an ICF International Company

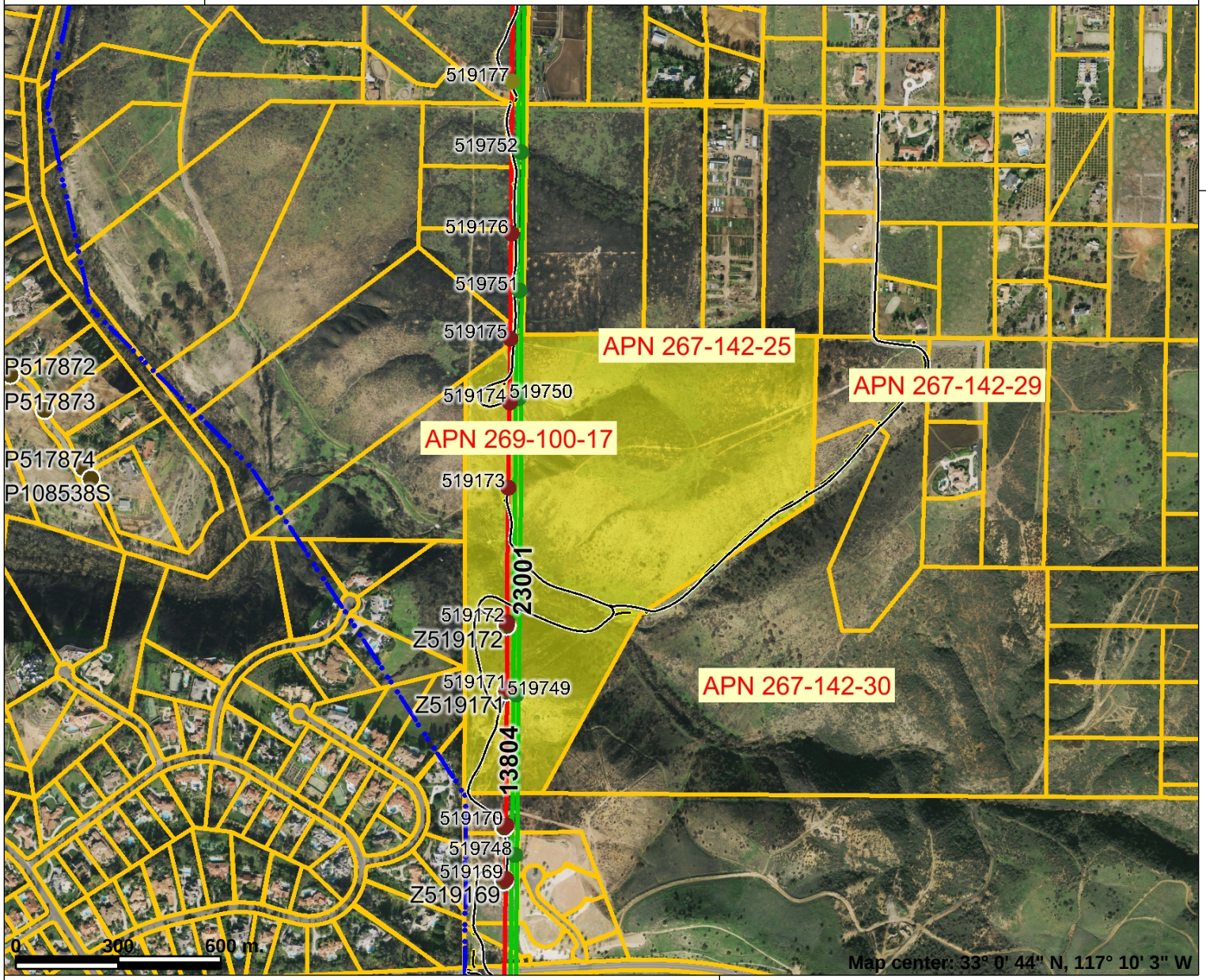
N

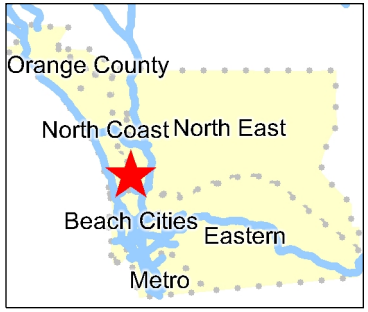
0 200 400 800
Feet

Figure 5
Hydrology & 2007 Witch Fire Burn Map
Lusardi Creek Preserve

LAND SERVICES GIS
http://gis.sempra.com

Figure 6. SDG&E Distribution Lines





Legend

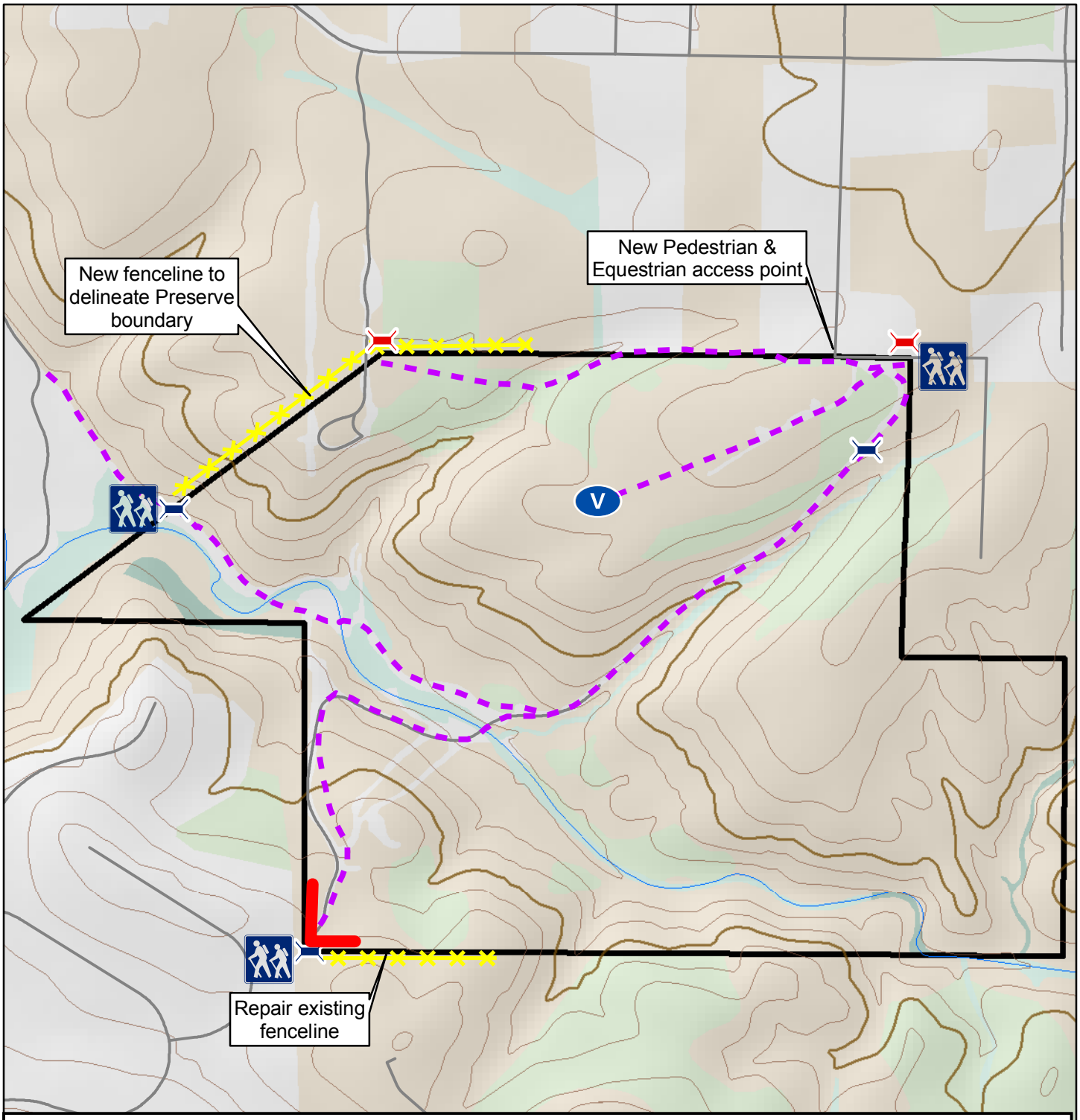
- Transmission Substation
- Transmission Structures
- Aerial Marker
- Bridge
- Portal
- Steel
- Tower
- Underground
- Wood
- Pole
- Freeway
- Highway
- Major Roads
- Orange County Roads
- Transmission Access Roads
- Land Managers Access Roads
- Gas Pipelines
- Transmission Tielines Detailed INTERNAL USE ONLY
- 138kV
- 230kV
- 500kV
- 69kV
- Railroad
- Runways
- District Boundary
- SD County Parcels
- SDG&E Fee Property
- Lease
- Own
- Sold

N

Scale: 1:17,504

2.5 Trails

The Preserve does not contain any formerly designated trail easements but does contain approximately three miles of existing dirt roads. These roads are well established and are primarily used by the Olivenhain Municipal Water District (OMWD) and San Diego Gas & Electric (SDG&E) to access infrastructure within and immediately adjacent to the Preserve (Figure 7).



SanGIS

Parks and Recreation
County of San Diego

Figure 7
Lusardi Creek Preserve
Trails, Gates & Fences

Path: E:\MXDs\09\09_05_Lusardi_Trails_Gates_Fences.mxd, 05/13/09, ekochert

3.0 BIOLOGICAL RESOURCES DESCRIPTION

In 2008 Jones & Stokes Associates, Inc. conducted baseline biological resources surveys of the Preserve. The results of these surveys can be found in the biological resources report entitled, *Baseline Biological Resources Evaluation for the Lusardi Creek Preserve*, dated December 2008, and attached as Appendix A. The survey results were used in the preparation of this RMP.

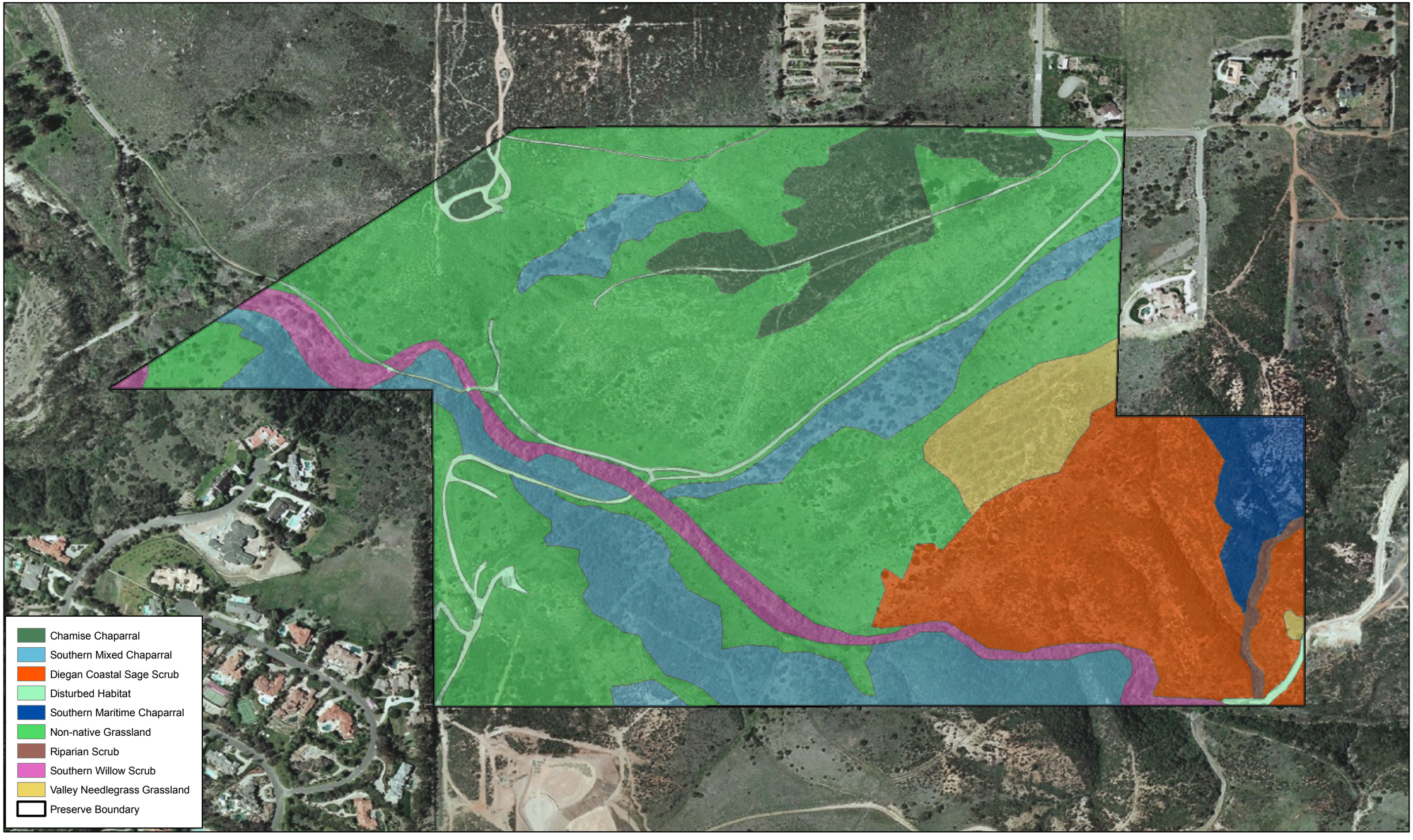
The surveys documented nine vegetation communities and 292 species within the Preserve. The surveys detected 177 plant species, 55 bird species, 24 mammal species (eight bats, nine small mammals, and seven medium and large bodied mammals), 12 herptiles (three amphibian and nine reptiles), and 24 invertebrate species. Thirty-one special-status species were detected during baseline surveys, of which eight are MSCP-covered species (six wildlife and two plants).

3.1 Vegetation Communities/Habitat

Vegetation communities and land cover types present within the Preserve consist of southern mixed chaparral, chamise chaparral, southern maritime chaparral, Diegan coastal sage scrub, valley needlegrass grassland, non-native grassland, southern willow scrub, riparian scrub and disturbed habitat (Figure 8, Table 1). A description of the vegetation communities and the dominant plant species detected during the survey are found below. A complete list of plant species observed within the Preserve is provided as Appendix A. A description of the vegetation communities and the dominant plant species detected during the survey are found below.

Table 1. Vegetation Communities within the Preserve

Vegetation Community	Acres
Southern Willow Scrub	8.3
Riparian Scrub	0.82
Southern Mixed Chaparral	30.2
Southern Maritime Chaparral	4.94
Chamise Chaparral	12.05
Diegan Coastal Sage Scrub	28.0
Valley Needlegrass Grassland	7.1
Non-native Grassland	98.0
Disturbed Habitat	5.0
TOTAL	**194.5**



ICF Jones & Stokes
an ICF International Company

N

0 200 400 800
Feet

Figure 8
Vegetation Communities
Lusardi Creek Preserve

Southern Willow Scrub (Holland Code 63320)

Southern willow scrub consists of a dense broad-leafed winter deciduous riparian thicket dominated by arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*) and mule-fat (*Baccharis salicifolia*). Dominant understory plants observed within this community included San Diego marsh elder (*Iva hayesiana*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), and yerba mansa (*Anemopsis californica*). Southern willow scrub occurs throughout the center portion of the Preserve and is specifically associated with Lusardi Creek.

Riparian Scrub (Holland Code 63300)

Riparian scrub within the Preserve consists of a dense mixture of perennial wetland shrubs including southwestern spiny rush, San Diego marsh elder and San Diego carex (*Carex spissa*). This community occurs within a tributary to Lusardi Creek in the southeastern most portion of the Preserve.

Southern Mixed Chaparral (Holland Code 37120)

Southern mixed chaparral is a broad-leaved sclerophyll shrub community forming dense often impenetrable vegetation dominated by chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), lemonadeberry (*Rhus integrifolia*), and toyon (*Heteromoles arbutifolia*). Other species observed during the field surveys included laurel sumac (*Malosma luarina*), Mexican elderberry (*Sambucus mexicanus*), poison oak (*Toxicodendron diverilobum*), bushrue (*Cneoridium dumosum*), and spiny redberry (*Rhamnus crocea*). This community is found along the steep north facing slopes located within the southern portion of the Preserve.

Southern Maritime Chaparral (Holland Code 37C30)

Southern maritime chaparral is a broad-leaved sclerophyll shrub community restricted to the coastal fog belt in San Diego County. Indicator plants observed within the Preserve included Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*) and Nuttall's ccrub oak (*Quercus dumosa*). Other plants observed included bushrue, chamise, toyon, California adolphia (*Adolphia californica*), and black sage (*Salvia mellifera*). This community is located in the southeastern portion of the Preserve.

Chamise Chaparral (Holland Code 37200)

Chamise chaparral is a broad-leaved sclerophyll shrub community consisting almost entirely of chamise. Other plants observed during the field surveys included bushrue and black sage. This community is located in the northeastern portion of the Preserve.

Non-Native Grassland (Holland Code 42200)

Non-native grassland is characterized by a dense to sparse cover of annual grasses reaching up to one meter (three feet), which may include numerous native wildflowers, particularly in years of high rainfall. These annuals germinate with the onset of the rainy season and set seeds in the late spring or summer. This community is usually found on fine-textured soils that proceed from moist or waterlogged in the winter to very dry during the summer and fall (Holland 1986). Non-native grasslands, in many circumstances, have replaced native grasslands as a result of disturbance (directly manmade [e.g., mechanical disturbance, grazing] or natural [i.e. altered fire cycles]).

Due to the 2007 Witch Fire, it is likely that non-native grasslands within the Preserve have replaced areas of maritime succulent sage scrub and Diegan coastal sage scrub. Dominant plants observed within the Preserve included tocolate (*Centaurea melitensis*), short-pod mustard (*Hirchfeldia incana*), foxtail chess (*Bromus madritensis*), slender wild oat (*Avena barbata*), rip gut (*Bromus diandrus*), common tarweed (*Deinandra fasciculatum*), and graceful tarplant (*Holocarpha virgata* ssp. *elongata*). Non-native grasslands are abundant and occur throughout most of the Preserve except for the southeastern most portions.

Valley Needlegrass Grassland (Holland Code 42110)

Valley needlegrass grasslands consist of mid-height grasses dominated by perennial tussock forming purple needlegrass (*Nassella pulchra*). On site this community was strongly associated with heavy clay soils and mima topography located along the ridge tops southeast of the main dirt road that bisects the Preserve. Characteristic species observed included common tarplant, blue eyed grass (*Sysrinchium bellum*), wild celery (*Apiastrum angustifolium*), blue dicks (*Dichelostemma capitata*), San Diego barrel cactus (*Ferocactus viridescens*), Palmer's grappling hook (*Harpagonella palmeri*), ashy spike moss (*Sellaginella cinerascens*), and variegated dudleya (*Dudleya variegata*).

Diegan Coastal Sage Scrub (Holland Code 32500)

Diegan coastal sage scrub is a native habitat type composed of a variety of soft, low, aromatic shrubs characteristically dominated by drought-deciduous species. It typically develops on south-facing slopes and other xeric situations (Holland 1986). Dominant plants observed on site included California Sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage, bushrue, laurel sumac, and California adolphia. Diegan coastal sage scrub occurs primarily within the southeastern portion of the Preserve. However, this vegetation community was likely more widespread within the Preserve prior to the 2007 Witch Fire.

3.2 Plant Species

3.2.1 Plant Species Present

Floristic inventories detected 177 plant species at the Preserve. The Baseline Biological Resources Evaluation (Appendix A) includes the complete list of all plant species observed during the surveys.

3.2.2 Rare, Threatened, or Endangered Plant Species Present

The following section discusses special-status plant species observed within the Preserve. A special-status plant species is one listed by federal or state agencies as threatened or endangered; considered to be of special status by one or more special interest groups, such as the California Native Plant Society (e.g., CNPS List 1, 2, 3, and 4 Plant Species); or is included on the County's Sensitive Plant list (Group A, B, C, or D Listed Plants).

Special-status plant species observed within the Preserve (Figure 9) consist of graceful tarplant, small flowered morning glory (*Convolvulus simulans*), Nuttall's scrub oak, Del Mar manzanita, Robinson's pepper grass (*Lepidium virginicum* spp. *robinsonii*), summer holly (*Comarostaphylos diversifolia*), western dichondra (*Dichondra occidentalis*), California adolphia, Palmer's grappling hook (*Harpagonella palmeri*), variegated dudleya (*Dudleya variegata*), San Diego barrel cactus (*Ferocactus viridescens*), San Diego marsh elder, and southwestern spiny rush.

Graceful Tarplant *(Holocarpha virgata ssp. elongata)*

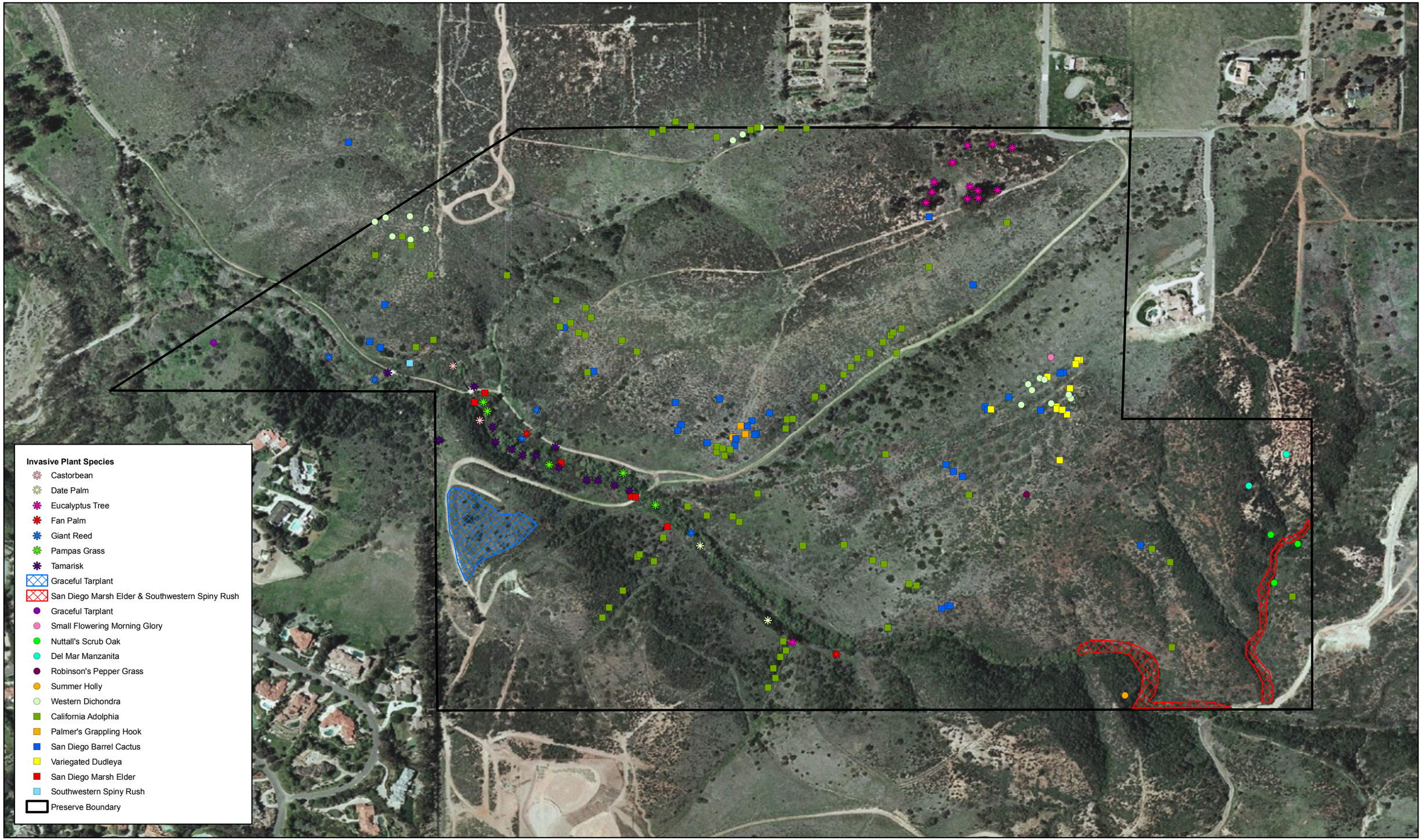
CNPS List 4, San Diego County Group D

Graceful tarplant is typically found within non-native grasslands. This species is found within the non-native grasslands along the western portion of the Preserve.

Small Flowered Morning Glory *(Convolvulus simulans)*

CNPS List 4, San Diego County Group D

Small flowered morning glory is found on clay soils which are typically devoid of shrubs. This species is found on clay soils atop the mesa within the eastern portion of the Preserve.



ICF Jones & Stokes
an ICF International Company

N

0 200 400 800
Feet

Figure 9
Special Status Plant Species
Lusardi Creek Preserve

Nuttall's Scrub Oak *(Quercus dumosa)*

CNPS List 1B, San Diego County Group A

Nuttall's scrub oak is a shrub that grows within coastal chaparral. This species occurs within the southern maritime chaparral located along the easternmost portion of the Preserve.

Del Mar Manzanita *(Arctostaphylos glandulosa ssp. glandulosa)*

Federally Endangered, CNPS List 1B, MSCP Covered Species, San Diego County Group A

Del Mar manzanita occurs within coastally influenced chaparral in San Diego County. This species occurs within the southern maritime chaparral located along the easternmost portion of the Preserve.

Robinson's Pepper Grass *(Lepidium virginicum spp. robinsonii)*

CNPS List 1B, San Diego County Group A

Robinson's pepper grass occurs within openings in chaparral and coastal sage scrub. This species was observed atop the mesa in the southeastern portion of the Preserve.

Summer Holly *(Comarostaphylos diversifolia)*

CNPS List 1B, San Diego County Group A

Summer holly typically occurs in southern mixed chaparral and southern maritime chaparral. This species was observed within the southern mixed chaparral located just south of Lusardi Creek.

Western Dichondra *(Dichondra occidentalis)*

CNPS List 4, San Diego County Group D

Western dichondra is an annual herb that typically grows in southern mixed chaparral, Diegan coastal sage scrub, and grasslands. This species was observed atop the two most northern mesas in the Preserve.

California Adolphia (also known as San Diego Adolphia*) (Adolphia californica)*

CNPS List 2, San Diego County Group B

California adolphia occurs primarily within Diegan coastal sage scrub. This species was common throughout most of the upland habitats within the Preserve.

Palmer's Grappling Hook *(Harpagonella palmeri)*

CNPS List 2, San Diego County Group B

Palmer's grappling hook is associated with clay soils within coastal sage scrub. This species is found on clay soils atop the mesa within the central portion of the Preserve.

Variegated Dudleya *(Dudleya variegata)*

CNPS List 1B, MSCP Covered Species, San Diego County Group A

Variegated dudleya is associated with openings within chaparral and coastal sage scrub. This perennial corm (or underground plant stem) prefers clay soils and is typically found within close proximity to vernal pools. This species is found within the valley needlegrass grasslands located within the eastern portion of the Preserve.

San Diego Barrel Cactus (also known as Coast Barrel Cactus) *(Ferocactus viridescens)*

CNPS List 2, MSCP Covered Species, San Diego County Group B

San Diego barrel cactus is associated with Diegan coastal sage scrub and maritime succulent scrub. This species was widely distributed within the non-native grassland and Diegan coastal sage scrub in the Preserve.

San Diego Marsh Elder *(Iva hayesiana)*

CNPS List 2, San Diego County Group B

San Diego marsh elder is associated with intermittent streambeds, seeps and sandy alluvial embankments. This species was a dominant understory shrub within the southern willow scrub in Lusardi Creek.

Southwestern Spiny Rush *(Juncus acutus ssp. leopoldii)*

CNPS List 4, San Diego County Group 4

Southwestern spiny rush is associated with intermittent streambeds and seeps. This species was a dominant understory shrub within the southern willow scrub in Lusardi Creek.

3.2.3 Rare, Threatened, or Endangered Plant Species not Observed but with High Potential to Occur

Additional information on the species listed below can be found in the Baseline Biological Resources Evaluation (Appendix A).

Thread-leaved Brodiaea (*Brodiaea filifolia*)
CNPS List 1B, San Diego Count Group A, MSCP Covered Species

Thread-leaved brodiaea is a perennial from corm that is typically found in vernally moist grasslands. The California Natural Diversity Database (CNDDB) reports this species from less than 0.3-mile from the eastern Preserve boundary. Appropriate habitat for thread-leaved brodiaea occurs throughout most of the Preserve.

3.2.4 Non-native and/or Invasive Plant Species

In general, the upland areas within the Preserve are dominated primarily by native or naturalized plant species although a burned patch of eucalyptus trees (*Eucalyptus* sp.) does occur within northeastern portion of the Preserve. This patch of eucalyptus totals approximately 1.7 acres. Several invasive plant species were also observed within Lusardi Creek totaling approximately 5.5 acres. These plants included tamarisk (*Tamarix ramosissima*), castor bean (*Ricinus communis*), Canary Island date palm (*Phoenix canariensis*), fan palm (*Washingtonia fillifera*), giant reed (*Arundo donax*), and pampas grass (*Cortaderia* sp.) (Figure 9). Currently, there is an infestation of artichoke thistle throughout the Preserve (District Park Manager, personal communication).

The California Invasive Plant Council (Cal-IPC) ranks giant reed, pampas grass, and tamarisk as “high” alert species. These species were found in the southern willow scrub habitat within the Preserve. These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Cal-IPC ranks castor bean and Canary Island date palm as “limited” alert species. Castor bean was found within chamise chaparral habitat and date palm was found in the southern willow scrub within the Preserve. These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic. These species were found in disturbed habitat and eucalyptus woodland within the Preserve.

Fan palm is considered to have a low potential to be invasive.

3.3 Wildlife Species

3.3.1 Wildlife Species Present

Invertebrates

A complete list of invertebrate species identified on the Preserve below the level of family is included in the faunal list of the Baseline Biological Resources Evaluation (Appendix A). No special-status butterfly species or other invertebrate species were detected during the 2008 surveys and no special-status invertebrate species have high potential to occur at the Preserve.

Butterflies

Butterfly species observed on the Preserve include Sara's orangetip (*Anthocaris sara*), Behr's metalmark (*Apodemia mormo virgulti*), brown elfin (*Callophyrys augustinus*), funeral duskywing (*Erynnis funeralis*), pale swallowtail (*Papillo eurymedon*), common white (*Pontia protodice*), painted lady (*Vanessa cardui*), and orange sulfur (*Colias eurytheme*).

No Quino checkerspot butterfly (*Euphydras editha quino*) surveys were performed because the Preserve is outside of the USFWS recommended survey area. However, the primary host plant for Quino checkerspot butterflies, dwarf plantain (*Plantago erecta*), is abundant on the hilltops north of Lusardi Creek.

Other Invertebrates

Sixteen other invertebrate species were captured in the pitfall traps associated with the herpetological array or observed during other fieldwork (Appendix A). These species were identified in the field, or photographed and provided to a local entomologist to identify. No invertebrate species were collected.

Amphibians

One amphibian species, western toad (*Bufo boreas*), was captured in the pitfall traps during the 2008 sampling period at the Preserve. Two additional amphibian species, Pacific chorus frog (*Pseudacris regilla*) and bullfrog (*Rana catesbeiana*), were identified from tadpoles during dip-netting within Lusardi Creek. A complete list of herpetofauna observed within the Preserve during the 2008 herpetological surveys is included in the faunal list of the Baseline Biological Resources Evaluation (Appendix A).

Reptiles

During the 2008 sampling at the Preserve, nine reptile species were detected. The following six reptile species were captured by arrays: southern alligator lizard (*Elgaria multicarinata*), western fence lizard (*Sceloporus occidentalis*), Coronado

skink (*Eumeces skiltonianus interparietalis*), orange-throated wiptail (*Cnemidophorus hyperythrus beldingi*), coastal western whiptail (*Cnemidophorus tigris stejnegeri*), and longnose snake (*Rhinocheilus lecontei*). Three species were observed or detected but not captured in the arrays: side-blotched lizard (*Uta stansburiana*), common kingsnake (*Lampropeltis getula*), and red diamond rattlesnake (*Crotalus ruber ruber*). A complete list of herpetofauna observed within the Preserve during the 2008 herpetological surveys is included in the faunal list of the Baseline Biological Resources Evaluation (Appendix A).

Birds

Avian species richness (total species detected) was found to be moderate at the Preserve. In total, 55 bird species were detected with 47 bird species detected during the point counts and eight species detected during other fieldwork (Table 6). These included year-round residents, winter-only species, breeding species that migrate to the Neotropics, and species that are strictly migratory through the Preserve, neither breeding nor wintering there.

The Preserve's avifauna is a mixture of species that are closely associated with the riparian habitat and Diegan coastal sage scrub. These species include Anna's hummingbird (*Calypte anna*), Nuttall's woodpecker (*Picoides nuttallii*), ash-throated flycatcher (*Myiarchus cinerascens*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), wrentit (*Chamaea fasciata*), common yellowthroat (*Geothlypis trichas)*, spotted towhee (*Pipilo maculates*), California towhee (*Pipilo crissalis*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), song sparrow (*Melospiza melodia*), black-headed grosbeak (*Pheucticus melanocephalus*), blue grosbeak (*Passerina caerulea*), Lazuli bunting (*Passerina amoena*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Carduelis psaltria*).

The Preserve has a good diversity of raptors (birds of prey), including seven observed raptor species: white-tailed kite (*Elanus leucurus*), Northern harrier (*Circus cyaneus*), Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*) and great horned owl (*Bubo virginianus*). These birds are using the Preserve for foraging and some species have potential to breed on site; however, no active raptor nests were observed.

There is no reasonable potential for southwestern willow flycatcher (*Empidonax traillii extimus*) to occur at the Preserve beyond rare and brief visits, due to lack of suitable habitat. The riparian habitat on site is more of a secondary riparian system and this species is typically found in mature and extensive stands of riparian habitat. It is likely that other subspecies of willow flycatcher pass through the Preserve in spring and fall, though they were not recorded during the current work. There is potential for least Bell's vireo (*Vireo bellii pusillus*) to occur at the Preserve. The

riparian habitat within the Preserve has a dense understory and there is an upper canopy in some areas, both of which are required by this species.

Mammals

A complete list of mammal species observed within the Preserve during the 2008 surveys is included in the faunal list of the Baseline Biological Resources Evaluation (Appendix A).

Small Mammals

In total, nine small mammal species were recorded at the Preserve during small mammal trapping and other surveys. Species included; Dulzura pocket mouse (*Chaetodipus californicus femoralis*); Dulzura kangaroo rat (*Dipodomys simulans* [=*Dipodomys agilis simulans*]) ; California mouse (*Peromyscus californicus insignis*) ; northern Baja mouse (*Peromyscus fraterculus* [*Peromyscus eremicus fraterculus*]); American deer mouse (*Peromyscus maniculatus gambelii*); dusky-footed woodrat (*Neotoma fuscipe macrotis*); San Diego woodrat (*Neotoma lepida intermedia*); California ground squirrel (*Spermophilus beecheyi nudipes*); Botta's pocket gopher (*Thomomys bottae*). These species were detected through capture, direct observation or sign. The trapping results indicate that the Preserve has good abundance and species diversity in small mammals. The species detected are commonly found in the habitats located within the Preserve.

Medium and Large Mammals

A total of seven mammal species were detected in the Preserve through camera stations, tracks, sign, and nocturnal surveys: desert cottontail (*Sylvilagus audubonii*), domestic dog (*Canis familiaris*), coyote (*Canis latrans*), common raccoon (*Procyon lotor*), bobcat (*Felis rufus*), domestic horse (*Equus caballus*), and southern mule deer (*Odocoileus hemionus fuliginata*). Movement of larger animals appeared to be concentrated along easily traveled routes with good visibility such as roads and ridges. Most signs of smaller animals were within natural communities with cover, especially chaparral.

Bats

A total of eight bat species were detected using passive Anabats during the three seasons of bat monitoring. The most active bat species detected were the Yuma myotis (*Myotis yumanensis*), Mexican free-tailed bat (*Tadarida brasiliensis*), and big Brown Bat (*Eptesicus fuscus*). Species detected infrequently included the Small-footed myotis (*Myotis ciliolabrum*), western red bat (*Lasiurus blossevillii*), and pocketed free-tailed bat (*Nyctinomops femorosaccus*).

Seasonal trends observed included a suite of species detected during all three seasons of monitoring; the Yuma myotis, canyon bat (*Parastrellus hesperus*), and

Mexican free-tailed bat. There was one species detected only during the summer: the long-eared myotis (*Myotis evotis*). There were two species detected only during the fall: the western red bat and small-footed myotis.

A moderate number of bat species appear to be supported by the Preserve. The Preserve is somewhat homogeneous, but contains two habitat features important to bats in the southern California landscape; riparian and scrub vegetation (Krutzsch 1948, Stokes et al 2005).

3.3.2 Rare, Threatened, or Endangered Wildlife Species Present

This section discusses special-status wildlife species observed at the Preserve (Figure 10). A special-status wildlife species is one listed by federal or state agencies as threatened or endangered; is included on the County's Sensitive Animal List (Group 1 or 2 Species); or is covered under the MSCP. Twenty-seven special-status wildlife species were detected at the Preserve. Each of these 27 species is addressed below in more detail.

Coronado Skink (*Eumeces skiltonianus interparietalis*)

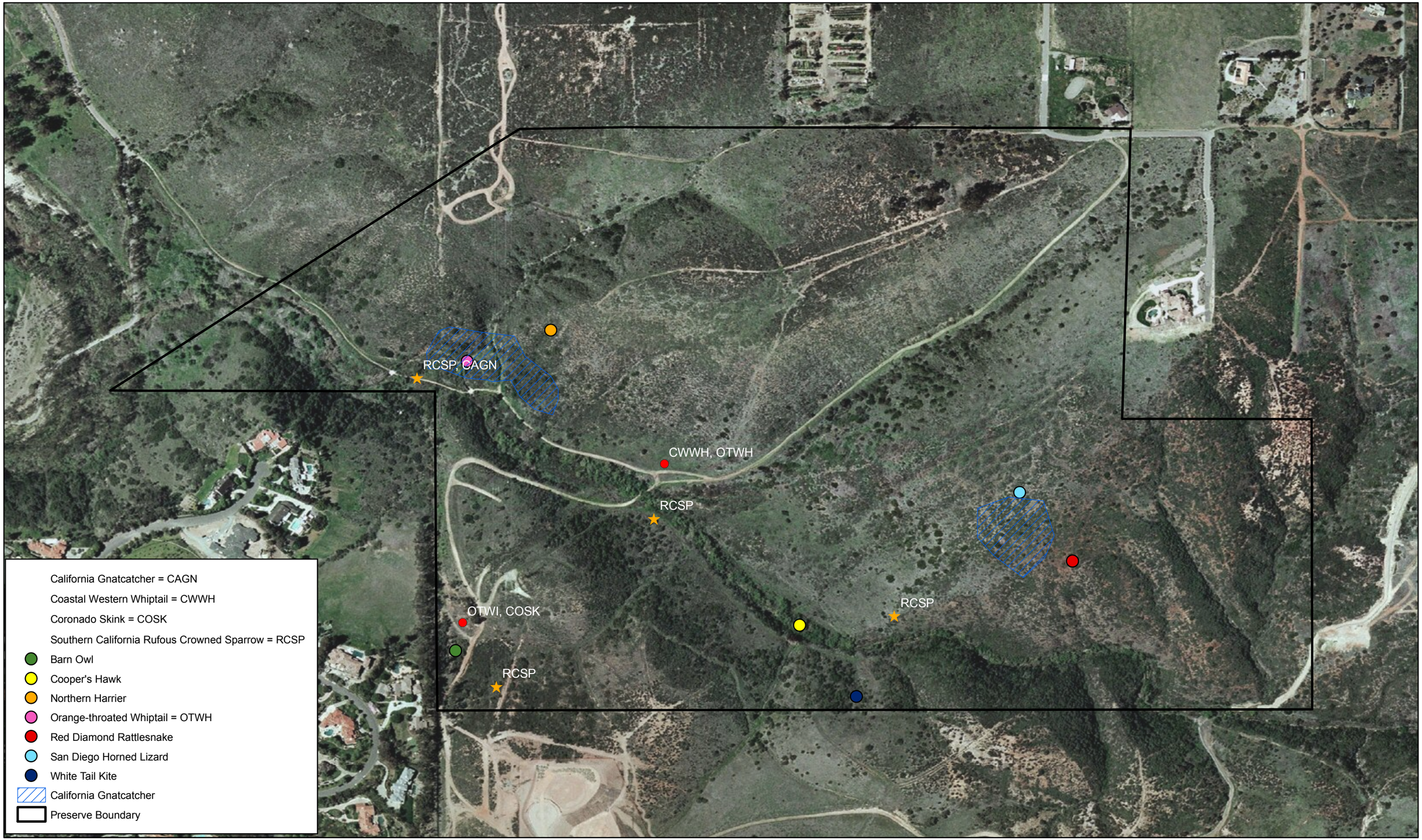
State Species of Special Concern, San Diego County Group 2

The Coronado skink is a medium-sized secretive lizard that is typically found in the moister areas of coastal sage, chaparral, oak woodlands, pinon-juniper, riparian woodlands and pine forests (Jennings and Hayes 1994). Their prey includes small invertebrates found in leaf litter or dense vegetation at the edges of rocks and logs. The Coronado skink is found along the coastal plain and Peninsular Ranges west of the deserts from approximately San Gorgonio Pass in Riverside County south to San Quentin, Mexico (Jennings and Hayes 1994). This species was captured in array 2 and is presumed to inhabit the main valley that supports Lusardi Creek.

Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

State Species of Special Concern, MSCP Covered Species, San Diego County Group 2

The orange-throated whiptail is a medium-sized lizard that ranges from Southern California (specifically Corona del Mar in Orange County and Colton in San Bernardino County) southward to the tip of Baja California, Mexico. Historically, most populations of the orange-throated whiptail were found on floodplains or terraces along streams in brushy areas with loose soil and rocks (McGurty 1980). Habitat types they are known to use include chaparral, non-native grassland, coastal sage scrub, juniper woodland, and oak woodland. California buckwheat is an important indicator of appropriate habitat for orange-throated whiptails (Dudek 2000). This plant species is a colonizer of disturbed, sandy soils and usually



ICF Jones & Stokes
an ICF International Company

N

0 200 400 800
Feet

Figure 10
Special Status Wildlife Species
Lusardi Creek Preserve

indicates open shrub spacing that is required for foraging and thermoregulatory behavior. Orange-throated whiptails appear to be dietary specialists with most (> 85%) of its prey being comprised of termites (Dudek 2000). The decline of orange-throated whiptails is likely due to loss of habitat to agriculture and urban development. This species was captured in both arrays 1 and 2 and was also observed during active surveys in the chaparral and scrub habitats west of array 2. This species is presumed to be abundant within the Preserve.

Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*)

San Diego County Group 2

Coastal western whiptail is a medium-sized slender lizard that is found in arid and semiarid desert to open woodlands where the vegetation is sparse (Stebbins 2003). Its range includes coastal southern California and western Baja California. The decline of coastal western whiptails is likely due to loss of habitat to agriculture and urban development. This species was captured in array 2, and observed during active searches within the chaparral and scrub habitats within the Preserve. This species is presumed to be abundant within the Preserve.

Red Diamond Rattlesnake (*Crotalus ruber ruber*)

State Species of Special Concern, San Diego County Group 2

The red diamond rattlesnake is a large, heavy-bodied rattlesnake that has a wide tolerance for varying environments and can be found in a variety of vegetation types, but it is most commonly seen in areas with heavy brush and cactus, rocks or boulders (Stebbins 2003). The known range extends from San Bernardino County along the coastal and desert slopes southward to Baja California. Adult red diamond rattlesnakes eat mostly squirrels and rabbits but lizards, specifically the Western Whiptail, are a significant food source for juveniles (Jennings and Hayes 1994). Urban development and the trend towards planting orchards on the steeper rocky hillsides have significantly decreased the amount of appropriate habitat for this species (Jennings and Hayes 1994). This species was observed within the coastal sage scrub north of Lusardi Creek. The majority of the Preserve supports appropriate habitat for this species.

White-Tailed Kite (*Elanus caeruleus)*

State Fully Protected Species (nesting), San Diego County Group 1

The white-tailed kite is found in lower elevations in open grasslands, agricultural areas, wetlands, and oak woodlands. Their primary source of food is the California vole (*Microtus californicus sanctidiegi*) (Unitt 2004). The white-tailed kite typically forages in open undisturbed habitats and nests in the tops of dense oak, willow or other large trees (Unitt 2004). This species is on the decline mostly due to urban

sprawl; however, it is still considered fairly widespread throughout the foothills of San Diego County (Unitt 2004).

White-tailed kites were seen foraging over the Preserve. The riparian habitat in the center of the Preserve along Lusardi Creek is not mature enough to be used as nesting substrata. This species most likely nests in the surrounding habitat offsite.

Northern Harrier (*Circus cyaneus*)

State Species of Special Concern, MSCP Covered Species, San Diego County Group 1

The northern harrier is associated with open grassland and marshes. This species typically forages in open, undisturbed habitat and nests on the ground in areas of dense low-growing vegetation to help conceal the nest. Nesting northern harriers are now considered rare and the known breeding population in San Diego County is estimated at 25 to 75 pairs (Unitt 2004). As with other ground nesting grassland birds, the northern harrier population is on the decline due to urban sprawl (Unitt 2004).

A northern harrier was observed foraging over the Preserve in September. This bird scared up a flock of several hundred house finches. There is minimal suitable breeding habitat within the boundary of the Preserve and if this species was nesting on the Preserve, the location would have been evident and identified through the course of the point count surveys. This species most likely nests in the surrounding area.

Cooper's Hawk (*Accipiter cooperii*)

MSCP Covered Species, San Diego County Group 1

The Cooper's hawk is a resident of riparian deciduous habitats and oak woodlands but in recent times has become adapted to urban park environments (Unitt 2004). This species hunts their primary source of food, passerines, in broken woodlands and forest margins and they are also known to take fish and mammals. The Cooper's hawk population declined due to hunting and loss of habitat; however, this species is making a comeback through its adaptation to the urban environment (Unitt 2004).

A Cooper's hawk was observed in April and was not observed again. This species may nest in surrounding habitat and use the Preserve sporadically for foraging.

Barn Owl (*Tyto alba*)

San Diego County Group 2

The barn owl is the owl species that is most tolerant to urban sprawl. It will nest in buildings, nest boxes, at the base of the leaves in palm trees, and in cavities in native trees. Even though this species is tolerant of human development, dense housing communities do not provide suitable nesting habitat and increased traffic has a negative effect on the species (Unitt 2004).

A barn owl was detected flying from the Preserve to the adjacent eucalyptus trees at the southern entrance to the Preserve. This owl most likely breeds in the adjacent habitat and forages on the Preserve.

Coastal California Gnatcatcher (*Polioptila californica californica*)

Federally Threatened, State Species of Special Concern, MSCP Covered Species, San Diego County Group 1

The coastal California gnatcatcher (*Polioptila californica californica*) is a small resident insectivorous species whose occurrence is strongly associated with sage scrub habitats found throughout southern California into northern Baja California, Mexico. Although California gnatcatchers have a close association with sage scrub, this species has also been documented using coastal sage-chaparral scrub, chamise chaparral and other habitat types such as the ecotone between coastal sage scrub and grasslands (Campbell et al. 1998, Bontrager 1991, K. Fischer pers. obs.). Habitat destruction, fragmentation and modification have led to this species' decline (USFWS 1993). Loss of habitat resulting from agriculture and urban development were leading causes of the species' decline until 2003 when the Cedar Fire destroyed almost 28% of the remaining habitat that the USFWS believed to be suitable for the coastal California gnatcatcher (Bond and Bradley 2003). The 2007 Witch Fire also decimated many acres of coastal sage scrub occupied by California gnatcatchers. The extent of damage to the California gnatcatcher population is unknown at this time.

Two use areas for the coastal California gnatcatcher were detected within the Preserve. One use area is in the burned western portion of the Preserve and the birds were detected at the riparian edge north to the top of the slope. This pair consists of male and female hatch year birds. Ms. Fischer was able to confirm male and female juvenile plumage on each bird. They were first detected during a point count in June and were detected during each subsequent point count sampling period. All sightings of these birds were within recovering coastal sage scrub. The second use area is at the western edge of the unburned coastal sage scrub in the eastern portion of the Preserve. California gnatcatchers were first detected at this location in July and during a survey in August an adult pair in breeding plumage was confirmed. An additional independent juvenile was also in the area but the adults

did not appear to be feeding the bird. It can be assumed that this pair breeds in this area.

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)

MSCP Covered Species, San Diego County Group 1

The southern California rufous-crowned sparrow is a resident species that is closely associated with coastal sage scrub, steep rocky hillsides, burned chaparral, and openings in mature chaparral (Unitt 2004). Preferring open habitat, with approximately 50 percent shrub cover, this species seeks cover in shrubs, rocks, grass, and forb patches (Dudek 2000, Unitt 2004). The southern California subspecies is restricted to semiarid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California (Dudek 2000). Rufous-crowned sparrows are declining due to loss of appropriate habitat and are sensitive to habitat fragmentation (Unitt 2004). Southern California rufous-crowned sparrows were detected throughout the recovering coastal sage scrub found at the Preserve.

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*)

State Species of Special Concern, San Diego County Group 2

Dulzura pocket mouse is mainly active on the ground, but also climbs shrubs and small trees when feeding (CDFG 2005). This species can become torpid by day at any time of the year, and is inactive in cold wet weather. It breeds in spring to early summer and occurs from sea level to approximately 2,408 m (7,900 ft) AMSL (CDFG 2005). This species prefers dense chaparral and is less common in dry grassland and desert scrub. During the 2008 trapping program on the Preserve, 61 of the 219 animals captured were Dulzura pocket mouse.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

State Species of Special Concern, San Diego County Group 2

San Diego desert woodrat requires large amounts of water, which it obtains from fleshy plants such as yucca species and prickly pear cactus (*Opuntia* sp.). It usually makes a stick house under one of these food plants, or may den among rocks (CDFG 2005). House materials include cacti, sticks, bones and a variety of trash. Houses provide insulation against heat as well as protection from predators. This species breeds in late winter or spring, occurs from sea level to approximately 2,591 m (8,500 ft) AMSL in deserts and coastal sage scrub, and prefers areas with rocky outcrops and plentiful succulents (CDFG 2005). During the 2008 trapping program on the Preserve, six of the 219 animals captured were San Diego desert woodrat.

Southern Mule Deer *(Odocoileus hemionus fuliginata)*

San Diego County Group 2, MSCP Covered Species

Southern mule deer are common across the western U.S. in a variety of habitats from forest edges to mountains and foothills (Whitaker 1996). Southern mule deer prefer edge habitats, rarely travel or forage far from water and are most active around dawn and dusk. Southern mule deer individuals were observed and also were photographed by the camera stations.

Small-footed Myotis (*Myotis ciliolabrum*)

San Diego County Group 2

The small-footed myotis is found throughout most of western North America, from southwestern Canada south into Mexico (BCI 2008). There is not much information on the habitat requirements of this species, but it has been documented under rock slabs and in crevices, mine tunnels, under loose tree bark, and in buildings (BCI 2008). This species hibernates in caves, typically in small groups. Reasons for decline are poorly understood as there has been little research conducted on this species. Both suitable roosting and foraging habitat for the small-footed myotis occur in the Preserve.

Long-eared Myotis (*Myotis evotis*)

San Diego County Group 2

Long-eared myotis is found in western North America from British Columbia south through California to Baja Mexico (BCI 2008). This species prefers coniferous forest in higher altitudes and will roost in caves, rock crevices, under tree bark or in buildings (BCI 2008). There is minimal roosting habitat for this species available at the Preserve. The Preserve may just be used for foraging by this species.

Yuma Myotis (*Myotis yumanensis*)

San Diego County Group 2

The Yuma myotis is found throughout much of the western U.S. and up into Canada (BCI 2008). The species is always found near lakes, creeks or ponds where the species forages over the water. Typically, individuals skim low over the water and snatch up flying insects but they can forage in other mesic areas. The species roosts by day usually in buildings or bridges but have been documented using mines or caves (BCI 2008). Yuma myotis are threatened by loss of riparian habitat and the decline in permanent water sources in the southwest. There is minimal roosting habitat for this species available on the Preserve; therefore, it may just be used for foraging by this species.

Western Red Bat (*Lasiurus blossevillii*)

State Species of Special Concern, San Diego County Group 2

Western red bats are found from southern Canada, throughout the U.S., all the way down to South America (BCI 2008). Several species in the genus *Lasiurus* are commonly referred to as "tree bats" because they roost only in tree foliage. The western red bat is a typical tree bat, with a close association with cottonwoods (*Populus* sp.) and riparian areas (BCI 2008). Like all tree bats, this species is solitary, coming together only to mate and to migrate. Western red bats typically forage along forest edges, in small clearings, or around street-lights where they prefer moths (BCI 2008). Although largely undocumented, this species' decline appears to be in part due to the loss of lowland riparian forests in the Southwest. Both the roosting and foraging needs of the western red bat could be supported by the Preserve.

Pocketed Free-tailed Bat (*Nyctinomops femorosaccus*)

State Species of Special Concern, San Diego County Group 2

Pocketed free-tailed bats are rarely found in southwestern California. These bats live in arid desert areas and roost in crevices high on cliff faces in rugged canyons (BCI 2008). Nursery colonies are relatively small and usually include fewer than 100 individuals. This species primarily forages on large moths, especially over water. The regional status and species trends are unclear, but it is likely vulnerable to disturbance, especially at roosts, and perhaps also to threats to food supply from man-made toxins. There is no roosting habitat for this species available at the Preserve. The Preserve may just be used for foraging by this species.

3.3.3 Rare, Threatened or Endangered Wildlife with High Potential to Occur

Additional information on the species listed below can be found in the Baseline Biological Resources Evaluation (Appendix A).

Western Spadefoot (*Scaphiopus* [=*Spea*] *hammondii*)

State Species of Special Concern, San Diego County Group 2

This species has high potential to occur in pooled areas of Lusardi Creek.

San Diego Horned Lizard (*Phyrnosoma coronatum blainvillii*)

State Species of Special Concern, San Diego County Group 2, MSCP Covered Species

The majority of the Preserve supports appropriate habitat for this species.

Coastal Rosy Boa (*Charina trivirgata roseofusca*)

San Diego County Group 2

This species has the potential to occur in any of the habitats found on the Preserve.

Coast Patch-nosed Snake (*Salvadora hexalepis virgutea*)

State Species of Special Concern, San Diego County Group 2I

This species has high potential to occur throughout the Preserve due to presence of suitable habitat.

Two-striped Garter Snake (*Thamnophis hammondii*)

State Species of Special Concern, San Diego County Group 1

This species has potential to occur within Lusardi Creek.

San Diego Ringneck Snake (*Diadophis punctatus similis*)

San Diego County Group 2

This species has high potential to occur throughout the Preserve due to presence of suitable habitat.

Turkey Vulture (*Cathartes aura*)

San Diego County Group 1

Turkey vultures have high potential to forage over the Preserve but there is no nesting habitat present.

Sharp-shinned Hawk (*Accipiter striatus*)

San Diego County Group 1

This species has high potential to occur as a migrant within the Preserve.

Merlin (*Falco columbarius*)

San Diego County Group 2

This species has high potential to occur as a migrant within the Preserve.

Loggerhead Shrike (*Lanius ludovicianus*)

State Species of Special Concern, San Diego County Group 1

Loggerhead shrikes have been documented in the general vicinity (Unitt 2004) and have high potential to forage and nest at the Preserve.

California Horned Lark (*Eremophila alpestris actia*)

San Diego County Group 2

This species has been documented in the general vicinity (Unitt 2004) and has a high potential to occur on the Preserve.

Bell's Sage Sparrow (*Amphispiza belli belli*)

San Diego County Group 1

The Bell's sage sparrow is documented as breeding in the vicinity (Unitt 2004) and has a high potential to occur on the Preserve.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

State Species of Special Concern, San Diego County Group 2

The Northwestern San Diego pocket mouse has potential to occur in all habitats found on the Preserve.

San Diego Black-tailed Jackrabbit (*Lepus californicus*)

State Species of Special Concern, San Diego County Group 1

The San Diego population of San Diego black tailed jackrabbit is found mostly on the coastal side of local mountains in open habitats, usually avoiding dense stands of chaparral or woodlands (Stephenson and Calcarone 1999). Suitable habitat for this species occurs within the Preserve.

Mountain Lion (*Puma concolor*)

San Diego County Group 2

The Preserve and the surrounding open space provide habitat for mountain lion to use for foraging and cover. As there is a large amount of open space surrounding the Preserve, potential for this species to move through the Preserve is high.

3.3.4 Non-native and/or Invasive Wildlife Species

Two non-native or invasive bird species were detected during the surveys: brown-headed cowbird (*Molothrus ater*) and European starling (*Sturnus vulgaris*). Brown-headed cowbird, an obligate brood parasite, was apparently present only as a migrant and wanderer on the Preserve. Thirteen sightings of individuals, mainly males, were recorded on or over the Preserve. No juveniles were detected indicating that this species may not parasitize nests on the Preserve. There were 11 sightings of European starling and these birds were observed near the eucalyptus trees and close to the homes adjacent to the Preserve. This species does not currently pose a significant threat to the native avian species on the Preserve.

3.4 Overall Biological and Conservation Value

The Preserve lies within the Hodges Reservoir/San Pasqual Valley MSCP designated Biological Core Resource Area (BCRA). Sixteen BCRA's and associated habitat linkages were identified in the MSCP study area. According to the MSCP Plan, BCRA's are defined as generally supporting a high concentration of sensitive biological resources which, if lost or fragmented, could not be replaced or mitigated elsewhere.

The Hodges Reservoir/San Pasqual Valley BCRA is adjacent to two habitat linkages: San Dieguito River Valley between Del Mar and Santa Fe Valley which provides a linkage to San Dieguito Lagoon BCRA; and Del Mar Mesa – Black Mountain which provides a connection to the Los Peñasquitos Lagoon/Del Mar Mesa/Peñasquitos Lagoon BCRA.

To define the core and linkage areas, an extensive geographic information system database of vegetation communities, species locations, elevation, slope, soils, drainages, and other physical parameters were used to develop a habitat evaluation map for the study area. The habitat evaluation map ranks habitat areas as Very High, High, Moderate, or Low based on their potential to support priority coastal California gnatcatcher habitat, and wildlife corridors. According to the MSCP Habitat Evaluation Model, the majority of the habitat within the Preserve is rated as very high value with the remainder ranging from low to very high in value. However, due to the 2007 wildfire and the current population of nonnative invasive plants, the current habitat value on-site is considered low.

The southern willow scrub and riparian scrub within the southern area of the Preserve is considered MSCP Tier I habitat and supports several special status species including Cooper's hawk and southern California rufous-crowned sparrow. Special-status species found within these habitats include: San Diego marsh elder and southwestern spiny rush. Southern maritime chaparral habitat is mapped in the eastern area of the Preserve and is considered MSCP Tier I habitat. On-site this habitat supports the following special-status plant species: Del Mar manzanita and Nuttall's scrub oak. Coastal sage scrub located in the southeastern area of the

Preserve is considered MSCP Tier II habitat and supports California adolphia, San Diego barrel cactus, coastal California gnatcatcher, and red diamond rattlesnake.

The use of the burned coastal sage scrub within the Preserve by coastal California gnatcatcher is a significant sighting as the area is mostly dominated by non-native species at this stage of recovery.

3.4.1 Wildlife Linkages and Corridors

Lusardi Creek serves as an important wildlife corridor linking Black Mountain Open Space Park to the San Dieguito River. It can be assumed that larger mammals regularly move on, off of, and across the Preserve, to and from adjacent open space.

4.0 CULTURAL RESOURCES

San Diego County is characterized by a rich and varied historical past. Cultural resources which reflect this history consist of archaeological remains, historic buildings, artifacts, photographs, oral histories, Native American memories and public documents. This RMP identifies the known cultural resources within Lusardi Creek Preserve and describes areas of potential resources.

In 2008, an archaeological survey was completed for the Preserve in compliance with the California Environmental Quality Act (CEQA) and County environmental guidelines to assist in continued and future land use and resource protection planning. The results of this study can be found in the report titled *Cultural Resources Phase I Survey and Inventory, Lusardi Creek Preserve, San Diego County, California*, dated December 2008, and is attached as Appendix B (Cooley and Jordan 2008). This Phase I inventory involved site records searches, literature reviews, Native American consultation, historic map checks, field survey, and resource documentation. The survey and inventory results were used in the preparation of this RMP.

4.1 Site History

The project area along today's Lusardi Creek sat between San Diego alcalde Juan María Osuna's 1840s grant Rancho San Dieguito to the west and English coastal trader Joseph Snook's 1840s grant Rancho Bernardo to the east. In response to the Land Act of 1851, the 8825-acre Rancho San Dieguito was claimed by Juliana Osuna in 1871 and the 17,763-acre Rancho Bernardo was patented by Snook's widow in 1874.

Only a small number of Mexican-era ranchos continued intact after the Land Act, due to the costs and logistics of proving title claims to the U.S. Government. The discovery of gold in California, population migration following the end of the Civil War, and the Homestead Act of 1862 all drew new settlers to the state during the second half of the nineteenth century. In the land between the San Dieguito and Bernardo ranchos, Italian Peter (Pietro) Lusardi was just such a settler. Arriving in

California during the Gold Rush, Lusardi emigrated to San Diego in 1866, starting a sheep ranch on Palomar Mountain (San Diego Historical Society n.d.). In 1887, Peter and his brother, Francisco, homesteaded in the La Jolla Valley between the ranchos south of the San Dieguito River and to the east of the project area. Here, they raised hay, grain and Valencia oranges (San Diego Historical Society n.d., May and Carrico 2001:6).

Peter Lusardi opened a school and post office in 1889, with Peter as the postmaster. The post office moved a half-mile to the northwest in 1892 and was operated, with a short break in 1903, until service was discontinued in 1911 (Salley 1977). In 1903, Peter also served as the Lusardi School Trustee (San Diego City Directories 1903). The 1895 San Diego City and County Directory records 21 occupants of the community of Lusardi; two years later, 18 residents are listed, including postmistress Mrs. A Bates and teacher Miss Emma Hyatt.

Lusardi amassed a 3,000-acre holding, enlisting Basque shepherds to file land patents on property surrounding his, which he later purchased (May and Carrico 2001:6). The community of ranches all contributed to the agricultural and livestock operations centered on Lusardi's sheep ranch, with hay, grain and dairy products making their way to San Diego in the wagons of neighbor Jose Osuna (May and Carrico 2001:7).

The community of Lusardi manifested, like many rural, agricultural areas, the dispersed nature of early rural communities. The "town" identified as Lusardi was centered around the location of Peter Lusardi's business operation and post office, but was in actuality a loosely bound community of homesteaders spread across the landscape. Within the Preserve itself, a structure is indicated on the 1901 Escondido 15' USGS quadrangle, on a knoll top at the upper northeast corner of the Preserve boundary at the end of an east-west trending dirt road. Associated landscaping and a long narrow structure appear on the 1928 aerial, however, the road to the property is hardly visible. Plat maps were reviewed at the San Diego Historical Society in November 2008. By 1895 it was recorded that a T. Watkins owned the southwest ¼ of Section 26, west of G. Z. Burriss' property, south of H. Gordon's property, and east of the Osuna family properties. Watkins appears in the "Lusardi" listing of the 1895 San Diego Directory along with the Osuna family and Peter and Frank Lusardi; Watkins, however, was listed as the Postmaster. A later plat map dated c.1910 still depicts Watkins (noted as "Walkins") as owner of the same property. It is presumed that Watkins built the structure present in 1901 and resided at that location. While no foundations or structural remains are apparent today, several Eucalyptus trees frame the building's former location. Other homesteads were also nestled south of the San Dieguito River, including the Roslein and Compton homesteads (May and Carrico 2001:8).

With the rise of urban San Diego in the twentieth century, many rural areas of the county experienced change. Land acquisitions for water infrastructure were made to quench the thirst of the growing city, and rural locations became idyllic getaways

from the pace and mechanization of urban living. To the north of the present-day Preserve, homesteads were purchased by Col. Ed Fletcher and a group of investors in the second decade of the century to accumulate water rights for a new dam on the San Dieguito River (May and Carrico 2001:9). To the south, within the boundaries of the former Rancho San Dieguito, actor Douglas Fairbanks, Sr. purchased 800 acres in 1924 as a country retreat complete with citrus groves. While his marriage to actress Mary Pickford ended before Fairbanks' "Rancho Zorro" was constructed, it did serve as his rural ranch with his second wife, Lady Sylvia Ashly, until his death. The property remained citrus orchards until its sale in 1952. The area's development into the Fairbanks Ranch estate community in 1981 continues the promotion of this area of the county as rural idyll, an island of private retreat in the increasingly developed county.

4.2 Native American Consultation

A letter was sent to the Native American Heritage Commission (NAHC) on February 6, 2008. A response letter from Mr. Dave Singleton of the NAHC, dated February 11, 2008 indicated that the search of the Sacred Lands File by the NAHC failed to indicate the presence of resources in the Preserve or the immediate surrounding project area. On May 13, 2008, letters were sent to the local Native American contacts provided by the NAHC, requesting further consultation. On May 22, 2008, one of the contacts listed by the NAHC, Mr. Clinton Linton of the Santa Ysabel Band of Diegueño Indians, was retained contractually to provide Native American monitoring services for the field survey, through his company Red Tail Monitoring & Research. On June 25, 2008, a response from the letters sent out was received from the Pauma Band of Mission Indians expressing interest in the project. A meeting was held at DPR on August 21, 2008 with representatives of DPR, ICF Jones & Stokes, the Pauma Band, the Kumeyaay Diegueño Land Conservancy, and Red Tail Monitoring & Research to inform the representatives present about the Cultural Resources Phase I survey and inventory. During the field survey, a representative from Red Tail Monitoring & Research was present each day. Mr. Linton was also requested to provide input of Kumeyaay concerns and information regarding prehistoric resources present within the Preserve.

4.3 Cultural Resource Descriptions

4.3.1 Prehistoric Archaeological Resources

Bedrock Milling Sites

CA-SDI-13,040 (P-37-013040)

This resource was originally recorded in 1992 as a bedrock milling site, consisting of five slicks on one boulder. During the current ICF Jones & Stokes survey, one bedrock milling station was located on a boulder with one slick. The boulder has been badly damaged by a recent fire. No artifacts were observed.

CA-SDI-13,041 (P-37-013041)

This resource was originally recorded in 1992 as a bedrock milling site, consisting of two slicks on two large boulders and a possible slick on an adjacent boulder. During the current ICF Jones & Stokes survey, one bedrock milling station was located on a small boulder with one slick. The boulder had been badly damaged by a recent fire.

CA-SDI-13,046 (P-37-013046)

This resource was originally recorded in 1992 as a small bedrock milling station consisting of a single shallow mortar. During the current ICF Jones & Stokes survey, the site was possibly relocated. The feature identified consisted of a granite outcrop with a possible incipient mortar. A possible unifacial mano was located northwest of the bedrock outcrop. A second feature and slick were not relocated. The site is located outside the Preserve boundary to the east, and south of a large private residence at the top of a drainage.

CA-SDI-13,048 (P-37-013048)

This resource was originally recorded in 1992 as a bedrock milling feature with seven slicks, one battered quartzite core, and a rock wall. During the current ICF Jones & Stokes survey, the bedrock milling feature and collapsed rock wall were relocated; however, only three slicks were apparent. In addition, one possible mano was located within a crevasse in the bedrock outcrop and one other mano was found adjacent to the eastern edge of the outcrop. A possible stacked rock feature no longer than two meters with a mixture of cobbles and rough volcanic rocks averaging about 30 centimeters in size was adjacent to the outcrop.

CA-SDI-19,239 (P-37-030195)

During the current ICF Jones & Stokes survey, a small bedrock milling station was identified that consisted of one slick located on a small boulder.

Lithic Scatters

CA-SDI-13,058 (P-37-013058)

This resource was originally in 1992 as a sparse mixed tool assemblage consisting of one black porphyritic retouched flake and two metate fragments representing two separate metates. During the current ICF Jones & Stokes survey, one green volcanic flake was located and four metate fragments were located adjacent to a fence line.

CA-SDI-13,059 (P-37-013059)

This resource was originally recorded as one blue-green core tool and flakes of aphanitic Santiago Peak metavolcanic material, one black core and several green flakes of porphyritic Santiago Peak metavolcanic material. During the current ICF Jones & Stokes survey, the area was intensively surveyed; however, the site was not relocated. Dense vegetation restricted ground.

Quarry

CA-SDI-9817(P-37-009817)

This resource was originally recorded as a quarry site focused on a green porphyritic metavolcanic boulder with 54 flakes/debitage observed on the slope of a ridge. The site was relocated in 1992 for a different project and described as a temporary camp with a medium to high density lithic scatter and associated rock ring. During the current ICF Jones & Stokes survey, the site was relocated and although the site was mapped as off-property, a small portion of the site fell within the current project area.

CA-SDI-13,043 (P-37-013043)

This resource was originally recorded in 1992 as a quarry area of poor quality Santiago Peak metavolcanics and a small flaking station. During the current ICF Jones & Stokes survey, the site was relocated. The site is a small, flat tested outcrop located outside of the current project area.

CA-SDI-13,045 (P-37-013045)

This resource was originally recorded as a small bedrock quarry area consisting of a small piece of bedrock. During the current ICF Jones & Stokes survey, the site was relocated and site conditions are similar to those described in 1992. The site is located outside the current project boundary to the east, and south of a large private residence at the top of a drainage.

CA-SDI-13,047 (P-37-013047)

This resource was originally recorded as a quarry with a lithic scatter. The site was recorded as one small quarried boulder of green aphanitic Santiago Peak metavolcanic material displaying over 30 flake scars, and a nearby scatter of over 20 pieces of debitage. During the current ICF Jones & Stokes survey, the area was intensively surveyed; however, the site was not relocated. Dense grasses and vegetation in the drainage hindered visibility. Following the recent fires, resulting erosion of surface soils and fire-affected boulders may have affected site condition.

Temporary Camp

CA-SDI-13,049 (P-37-013049)

This resource was originally recorded as a sparse temporary camp, consisting of one chalcedony cottonwood point, one quartz lithic, and one donax shell. During the current ICF Jones & Stokes survey, the area was intensively examined; however, the site was not relocated. Thick grasses and riparian vegetation hindered visibility.

Isolates

P-37-015268, P-37-015269, P-37-015270, P-37-015271, P-37-015274, P-37-015291

These isolates were originally recorded in1992 and none of them could be relocated during the current ICF Jones & Stokes survey.

P-37-015292

This resource was originally recorded in 1992 as an isolate, consisting of one quartzite core scraper, one black Santiago Peak metavolcanic core, and one black porphyritic Santiago Peak metavolcanic flake. During the current ICF Jones & Stokes survey, one black porphyritic Santiago Peak metavolcanic core was relocated; however, the location of this core was 65 meters from the originally mapped location.

4.3.2 Historic Sites

CA-SDI-13,042 (P-37-013042)

This resource was originally recorded as a historic trash scatter concentrated in two loci, consisting of aqua glass, Bauer ware, metal, whiteware china, and a 1941 Coke bottle. During the current ICF Jones & Stokes survey, both loci (A and B) were relocated and remain largely as described in 1992. Review of historic maps indicated that a structure was located at this location by 1901; however, the structure is no longer present and no foundation remains were visible.

CA-SDI-19,238 (P-37-030194)

During the current ICF Jones & Stokes survey, a sparse historic trash scatter was identified, consisting of an iron plate, a possible glass candlestick holder, fabric or wallpaper, and a dish drainer. The site is located within an area that had been graded, creating a cut bank that runs parallel to the Lusardi Creek. Three items were found within an area measuring 6 feet by 4 feet — the iron plate, the glass candlestick holder (in two fragments), and the piece of fabric or wallpaper. Approximately 25 feet to the east was a dish drainer. Historic maps provide no evidence for the association of this site.

4.4 Resource Significance

None of the 19 prehistoric resources on or immediately adjacent to the Preserve appear to represent village or major campsite locations based on the lack of complexity of the elements observed to be present in each. None, for example, contain a variety of artifact classes and content, including moderately dense scatters of flaked-lithic tools and tool fragments, and flaked stone tool manufacturing debitage; ground-stone tools and milling features; pottery; organic midden deposits; and faunal food remains indicative of areas of more intensive habitation. Instead, these 19 prehistoric sites and isolates appear to represent locations at which limited special tasks and/or particular resource procurement activities occurred. Six of the sites, CA-SDI-13,040, CA-SDI-13,041, CA-SDI-13,046, CA-SDI-13,048, and CSDLC-03, and CA-SDI-13,058 and one of the isolates P-37-015268 appear to be associated with seed and/or, perhaps, acorn gathering and processing. Sites CA-SDI-9817, CA-SDI-13,047 and CA-SDI-13,045, CA-SDI-13,043, and site CA-SDI-13,059, and isolates P-37-015269 P-37-015270 P-37-015271 P-37-015274 P-37-015291 and P-37-015294, all appear to be locations at which lithic raw material procurement and initial processing primarily occurred.

Consequently, none of the sites on the property appear to represent principal loci of a dispersed village pattern of settlement, such as proposed for the Late Prehistoric Kumeyaay in the Ramona area to the east of the Preserve by Carrico and Cooley (2005). Nor do they appear to be sites of aggregation as described by Norwood (1980) for the Archaic sites on Fairbanks Ranch. It seems probable, then, that the more substantial habitation sites are located elsewhere, such as on Fairbanks Ranch or along the adjacent San Dieguito River, and the sites in the Preserve may represent smaller, immediately adjacent, milling station and lithic scatter sites associated with specialized resource procurement and/or processing locations proximate to these adjacent habitation loci

Site CA-SDI-13,049 is the only resource which may reflect activity other than limited resource procurement and processing. This site, as discussed previously, could be indicative of a buried deposit along Lusardi Creek. The water in this drainage has been sufficient to have been impounded in historic times into several small reservoirs up stream, off the property. Consequently, it could be expected that a

prehistoric habitation site location could be present along this drainage. Originally recorded as containing “cottonwood point”, “quartz lithic” and single “donax shell” (Schultz, James et al. 1992), would suggest that the site could be Late Prehistoric in age. A habitation site, located along a drainage would be consistent with a Late Prehistoric settlement pattern as previously discussed.

Of research interest at the sites in the Preserve was the occurrence of flaked stone materials relative to other sites locally. Use of the locally available Santiago Peak metavolcanics, from bedrock sources, has been postulated to be a trait associated with the San Dieguito complex, while use of cobble materials has been attributed to the La Jolla/Pauma complexes. It appears possible that both types of lithic procurement were occurring on the Preserve sites. It appears that future research at the sites in the Preserve may be able to contribute fundamental data which will better define the patterns of lithic raw material procurement during different time periods, as well as provide materials to examine differing methods of lithic manufacture during the Early Prehistoric and Archaic periods associated with the San Dieguito and La Jolla/Pauma complexes.

Based on the limited survey data, then, it appears that future archaeological investigations of the sites in the Preserve are likely to contribute data to better define Archaic Period, and possibly Early Prehistoric Period and Late Prehistoric Period settlement and subsistence, and lithic resource procurement and manufacture patterns, not only in the San Dieguito River valley, but for the southern County area in general.

None of the 21 cultural resources previously and currently recorded within or contiguous to the Preserve has been previously evaluated for importance. The eight prehistoric or historic isolates however are not considered as significant resources. Three of the prehistoric cultural resources previously recorded within the Preserve (CA-SDI-13,047 CA-SDI-13,049 CA-SDI-13,059) could not be relocated during the current survey. While in two of the instances, it did not seem that vegetation was a substantial issue for visibility at the site locations, small scale prehistoric resources cannot always be easily relocated. Consequently, these sites must still be treated as existing resources on the Preserve. As per the original scope of work, resource evaluation was not conducted as part of this survey and inventory effort. However, according to the County’s guidelines in the absence of significance testing they are considered significant. Consequently, it is recommended that any of the sites that cannot be preserved through project design resulting in avoidance of the resource should be tested and evaluated for importance.

5.0 RESOURCE MANAGEMENT

5.1 Management Goals and Objectives

Management of the natural and cultural resources within the Preserve will be guided by the general goals and objectives of both the County and the MSCP.

5.1.1 County-Specific

County-specific goals and objectives used to guide the management of resources within the Preserve can be found in the County Strategic Plan, the DPR Strategic Plan, as well as the San Dieguito Community Plan. The County's overall goal or mission, as indicated in the 2009-2014 Strategic Plan, is to provide the residents of San Diego County with superior County services in terms of quality, timeliness and value in order to improve the region's quality of life. The Strategic Plan for Parks and Recreation is closely aligned with the County's strategic initiatives.

The DPR Strategic Plan 2008-2013, outlines the department's priorities for accomplishing its mission over a five-year period. The overall goal or mission of DPR is to provide opportunities for high quality parks and recreation experiences and to preserve regionally significant natural and cultural resources. DPR makes this mission a reality through programs that create healthy communities, protect valuable natural and cultural resources, provide recreation opportunities, reduce crime and vandalism, and foster economic development.

In addition, the San Dieguito Community Plan provides goals and policies which are designed to fit the specific or unique circumstances existing within this community. Goals provided in this plan seek to preserve the present state of spaciousness and rural living within the Plan area; encourage the preservation and enhancement of unique natural features; and provide a wide variety of recreational activities and facilities which will meet the needs and enrich the lives of all San Dieguito residents. To this end, the plan provides policies and recommendations which are meant to guide the allocation of County resources towards prescribed outcomes consistent with the goals.

5.1.2 MSCP-Related

The MSCP Plan and the County's Subarea Plan provide both general and segment-specific goals and objectives. The Preserve is located within the Lake Hodges Segment of the MSCP Subarea Plan and, as discussed in Section 3.4, lies adjacent to two habitat linkages within the Hodges Reservoir/San Pasqual Valley BCRA. The overall MSCP goal is to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitat, thereby preventing local extirpation and ultimate extinction. This is intended to minimize the need for future listings, while enabling economic growth in the region.

In order to assure that the goal of the MSCP Preserve is attained and fulfilled, management objectives for the County of San Diego MSCP Subarea are as follows:

1. To ensure the long-term viability and sustainability of native ecosystem function and natural processes throughout the MSCP Preserve.
2. To protect the existing and restored biological resources from disturbance-causing or incompatible activities within and adjacent to the MSCP Preserve while accommodating compatible public recreational uses.
3. To enhance and restore, where feasible, the full range of native plant associations in strategic locations and functional wildlife connections to adjoining habitat in order to provide viable wildlife and sensitive species habitat.
4. To facilitate monitoring of selected target species, habitats, and linkages in order to ensure long-term persistence of viable populations of priority plant and animal species and to ensure functional habitats and linkages.
5. To provide for flexible management of the MSCP Preserve that can adapt to changing circumstances to achieve the above objectives.

5.1.3 Management Directives and Implementation Measures

Based on the above management goals and objectives, recommended management directives have been identified. In accordance with the Framework Management Plan, the ASMDs have been designated as Priority 1 or Priority 2. This designation recognizes the fact that many of the directives cannot be immediately implemented, but instead will occur over the life of the MSCP. The ability to implement and the timing of many of the management directives will be directly related to the availability of funding in any fiscal year and on the priority. The priorities are, therefore, intended to assist in decisions on where and how to spend limited funds. Priority designations are as follows:

Priority 1: Directives that protect the resources in the Preserve and the MSCP Preserve, including management actions that are necessary to ensure that sensitive species are adequately protected.

Priority 2: Directives other than those required for sensitive species status and other long-term items that may be implemented during the life of the MSCP as funding becomes available.

The management directives provided in this RMP have been divided into five elements: A) Biological Resources, B) Vegetation Management, C) Public Use, Trails, and Recreation, D) Operations and Facility Maintenance, and E) Cultural Resources.

5.2 Biological Resources Element (A)

5.2.1 Biological Monitoring

Biological monitoring will be performed onsite to gather information that will assist DPR in making land management decisions to conform to MSCP goals and objectives, as well as DPR objectives. The biological monitoring that will occur will be designed to guide decisions at the individual preserve level. It is recognized that subregional monitoring has been designed to answer concerns and objectives on a larger scale. No subregional monitoring is occurring at Lusardi Creek Preserve. While objectives of individual preserve and subregional monitoring may be different, subregional monitoring methods that have been developed or are under development may assist monitoring methods and decisions at the preserve level for particular species and habitats.

The key to successful monitoring at the individual preserve level, such that data gathered is not duplicative and meets individual preserve level objectives, is close coordination with stakeholder groups that are performing subregional monitoring, sharing of data, future plans and schedules and keeping abreast of monitoring methods as they are developed. To ensure uniformity in the gathering and treatment of data, a (SANDAG) land management working group has been formed and will designate a land manager who will assist jurisdictions in coordinating monitoring programs, analyzing data, and providing other information and technical assistance. The DPR will work closely with this group.

MSCP covered species have been prioritized for monitoring by San Diego State University (SDSU) in the document *San Diego Multiple Species Conservation Program Covered Prioritization* (Regan et al .,2006). Subregional monitoring methods have been developed for rare plants (McEachern et al., 2007) and animals (USFWS, 2008). These references will assist DPR in developing monitoring methods at the preserve level, as well as the management directives that are identified for specific species in this document.

Management Directive A.1 – Conduct habitat monitoring to ensure MSCPgoals and DPR objective are met (*Priority 1*)

***Implementation Measure A.1.1*:** DPR will conduct habitat monitoring at five-year intervals. Habitat monitoring will address both temporary and permanent habitat changes as well as habitat value. The main product of this monitoring will be a report which will include a discussion of monitoring objectives, monitoring methods to meet those objectives and an updated vegetation community map.

***Implementation Measure A.1.2*:** DPR will conduct general wildlife and rare plant surveys at five-year intervals utilizing and refining baseline monitoring methods to facilitate trend and distribution status analysis. This information will be included in the habitat monitoring report.

***Implementation Measure A.1.3*:** DPR will conduct monitoring for invasive plant species to assess success of eradication and control methods. These surveys will focus on areas where invasive, non-native plants have been detected in the past, but also look for new occurrences in the Preserve.

Management Directive A.2 – Meet the corridor monitoring requirements of the MSCP (*Priority 2*)

As discussed in Section 3.4, even though the Preserve does not lie within a primary linkage, it is located within the Hodges Reservoir/San Pasqual Valley BRCA, which is adjacent to two biological linkages. Additionally, Lusardi Creek located in the southern portion of the Preserve serves as a wildlife corridor for local wildlife movement. Due to adjacent residential development to the north and southwest, the trend for local movement across the Preserve is likely east-west as north-south movement is impeded. Therefore, while corridor monitoring within the Preserve will take place at the preserve-level, it anticipated that it will provide data for better understanding movement on a regional scale.

***Implementation Measure A.2.1*:** DPR will conduct corridor monitoring at five-year intervals in conjunction with habitat monitoring and general wildlife and rare plant surveys (as described in implementation measures A.1.1 and A.1.2). The main product of this monitoring will be a report documenting the results of the current assessment of habitat linkage function including a list of focal species detected.

5.2.2 MSCP Covered Species-Specific Monitoring and Management Conditions

Not all species occurring within the Preserve are expected to require species-specific management. It is expected, rather, that other management directives and implementation measures outlined under the Biological Resources and Vegetation Management elements should be sufficient to protect and manage optimal habitat conditions for most, if not all, species to maintain and/or thrive within the Preserve. However, there are some species listed as MSCP Covered Species in the MSCP Subarea Plan which require additional management measures, particularly if monitoring indicates that the general guidelines are not sufficient to maintain acceptable population levels. Table 3-5 of the Final MSCP Plan (City of San Diego, 1998) provides management and/or monitoring measures for specific MSCP species.

In addition, in the document *San Diego Multiple Species Conservation Program Covered Prioritization* (Regan et al., 2006), SDSU has prioritized the MSCP covered species for monitoring. The species were classified as Risk Group 1 (most endangered), Risk Group 2 (moderately endangered), and Risk Group 3 (less endangered). Next, the threats/risk factors facing the species were identified and ranked as high, moderate, or low degree of threat to the species. Only management

conditions addressing high and moderate threats for Risk Group 1 species will be discussed in this RMP. One Risk Group 1 species is currently present on the Preserve.

Management Directive A.3 - Comply with applicable conditions of coverage for MSCP Covered Species (*Priority 1*)

***Implementation Measure A.3.1*:** Implement the species-specific monitoring and management conditions as listed in Table 3-5 of the MSCP Plan and *San Diego Multiple Species Conservation Program Covered Prioritization* (Regan et al., 2006) for all MSCP Covered Species detected within the Preserve.

The conditions of coverage for those species currently known to occur in the Preserve are listed below followed by an explanation of how management activities in the Preserve will comply.

Del Mar Manzanita *(Arctostaphylos glandulosa ssp. glandulosa)*

Monitoring: Table 3.5 - Site Specific, SDSU - Risk Group 1

Management Conditions: Table 3-5 states area-specific management directives must include specific management measures to address the autecology and natural history of the species and to reduce the risk of catastrophic fire. Management measures to accomplish this may include prescribed fire. Management measures to reduce the risk of catastrophic fire are addressed through vegetation management implementation measure B.4.3 below. The use of prescribed fire will also be addressed through implementation measure B.4.3 below. Management measures to address autecology and natural history of the species are addressed below in implementation measure B.1.1.

SDSU identifies the following threats for Del Mar Manzanita: 1) urban development encroachment; 2) habitat fragmentation; and 3) nonnative invasives. Edge effects are addressed through multiple implementation measures under management directives D.8 and D.9. Habitat fragmentation threats will be identified through habitat monitoring as described under implementation measure A.1.1. Nonnative invasive plant species will be addressed under implementation measure A.1.3 and management directives B.2 and B.3.

Variegated Dudleya *(Dudleya variegata)*

Monitoring: Table 3-5 - Site Specific, SDSU - Risk Group 2

Management Conditions: Table 3-5 states area-specific management directives must include specific measures to protect against detrimental edge

effects to this species, including effects caused by recreational activities. Edge effects are addressed through multiple implementation measures under management directives D.8 and D.9 below. Effects caused by recreational activities are addressed through implementation measure C.5.1.

San Diego Barrel Cactus (also known as Coast Barrel Cactus) *(Ferocactus viridescens)*

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-5 states area-specific management directives must include measures to protect this species from edge effects and unauthorized collection; directives should also include appropriate fire management/control practices to protect against a too frequent fire cycle. Edge effects are addressed through multiple implementation measures under management directives D.8 and D.9. Unauthorized collection is addressed through implementation measure C.1.1. Management measures to reduce the risk of catastrophic fire are addressed through vegetation management implementation measure B.4.3.

Orange-Throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

Monitoring: Table 3-5 - Site Specific, SDSU - Risk Group 3

Management Conditions: Table 3-5 states area-specific management directives must address edge effects. Edge effects are addressed through multiple implementation measures under management directives D.8 and D.9 below.

Cooper's Hawk (*Accipiter cooperii*)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-5 states area-specific management directives must include 300-foot impact avoidance areas around active nests and minimization of disturbance in oak woodlands and oak riparian forests.

No nesting territories were observed within the Preserve during the 2008 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2).

Northern Harrier (*Circus cyaneus*)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-4 states area-specific management directives must: (1) include an impact avoidance area (900 feet or maximum possible within the preserve) around active nests; and (2) include measures for maintaining winter foraging habitat in preserve areas in Lake Hodges.

No nesting territories were observed within the Preserve during the 2008 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2).

Coastal California gnatcatcher (*Polioptila californica*)

Monitoring: Table 3-5 - Area-specific Management Directives, SDSU - Risk Group 2

Management Conditions: Table 3-5 states area-specific management directives must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality including vegetation structure. No clearing of occupied habitat may occur between March 1 and August 15.

Edge effects are addressed below in management directives D.8 and D.9, fire protection is addressed below in implementation measure B.4.3, habitat management is addressed in implementation measures A.1.1, and habitat restoration B.1.1. Any future projects will require protocol coastal California gnatcatcher surveys to determine if the site is occupied.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-5 states area-specific management directives must include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components.

Southern California rufous-crowned sparrows were detected throughout the recovering coastal sage scrub found at the Preserve. This habitat will be maintained through vegetation management implementation measure B.4.3.

Southern Mule Deer (*Odocoileus hemionus*)

Monitoring: Table 3-5 - Habitat Based and Corridor Sites, SDSU - Risk Group 3

Management Conditions: None

5.2.3 Non-Native Invasive Wildlife Species Control

Management Directive A.4 – Reduce, control, or where feasible eradicate invasive, non-native fauna known to be detrimental to native species and/or the local ecosystem (*Priority 2*)

Invasive, non-native species detected within the Preserve during the 2008 surveys include brown-headed cowbirds and European starlings. These species do not currently appear to be posing an immediate threat to native species and/or the local ecosystem; however, they have potential to out compete native species for valuable resources.

***Implementation Measure A.4.1*:** DPR will conduct surveys for the presence of invasive, non-native wildlife species of management concern, including cowbirds and European starlings, at five-year intervals in conjunction with habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2).

***Implementation Measure A.4.2*:** If detrimental effects of these species are detected within the Preserve, preparation and implementation of a trapping and removal program, or other means of humane control should be initiated.

***Implementation Measure A.4.3*:** On a case-by-case basis, some limited trapping of non-native predators may be necessary at strategic locations, and where determined feasible to protect ground- and shrub-nesting birds, lizards, and other sensitive species from excessive predation. If implemented, the program would only be on a temporary basis and where significant problem has been identified and therefore needed to maintain balance of wildlife in Lusardi Creek Preserve and the MSCP Preserve. The program would be operated in a humane manner, providing adequate shade and water, and checking all traps twice daily. Signage at access points and noticing of adjacent residents will inform people that trapping occurs, and how to retrieve and contain their pets.

Implementation Measure A.4.4: DPR will institute an equestrian education program regarding the potential negative impacts to native ecosystems from the accumulation of non-point source pollutants (e.g., increased potential for occurrence of cowbirds) in staging areas and on frequently used trails. This could be accomplished through implementation of a signage program and interaction between rangers and trail users. See also implementation measure B.3.2.

5.2.4 Future Research

The MSCP Preserve presents a rich array of research opportunities for the academic and professional communities, primarily in disciplines related to biology, ecology, and natural resources management, but also ranging to environmental design, sociology, and park use and administration. The County of San Diego encourages research within the MSCP Preserve in order to gain valuable information unavailable through other means.

There are a multitude of unanswered questions posed by the development of a multiple species and habitat system where little literature or previous research exists on the majority of species inhabiting the region. In addition, research on vegetation associations and habitats, natural regeneration, restoration, fragmentation, edge effects, genetics, viability, predation, wildlife movement, and much more, would be useful to provide information on the health and dynamics of an urbanized open space system as well as how to improve conditions. The MSCP Biological Monitoring Plan makes recommendations for further research to supplement the required monitoring program.

Management Directive A.5 – Allow for future research opportunities for the Academic and Professional Scientific and Biologic Activities within the Preserve (*Priority 2*)

> ***Implementation Measure A.5.1*:** DPR will accept and review proposals for scientific research, monitoring, and habitat restoration and enhancement activities which are permitted within the MSCP Preserve. Proposed research activities will be subject to approval by DPR. All such activities must obtain any necessary permits and shall be consistent with this RMP. Additionally, any person conducting research of any kind within the Preserve shall obtain a Right-of-Entry Permit from DPR, which will outline the precautions to be taken to preserve and protect sensitive biological and cultural resources within the Preserve and require results of any research to be made available to DPR.

5.3 Vegetation Management Element (B)

5.3.1 Habitat Restoration

Management Directive B.1 – Restore degraded habitats to protect and enhance populations of rare and sensitive species through stabilization of eroded lands and strategic revegetation (*Priority 1*)

> ***Implementation Measure B.1.1*:** DPR will assess and determine the need for restoration activities within the Preserve. The need for restoration activities will be determined based on the results of habitat monitoring (as described in implementation measure A.1.1) and trail maintenance activities (as described in implementation measure C.5.3). Any proposed restoration activities should

utilize current, accepted techniques and avoid/minimize impacts to sensitive species or native habitats. Any proposed revegetation activities should use only local native species. No active restoration is currently needed. Passive restoration (recovery from fire) is ongoing.

5.3.2 Non-Native Plant Species Removal and Control

Management Directive B.2 – Reduce, control, or where feasible eradicate invasive, non-native flora known to be detrimental to native species and/or the local ecosystem (*Priority 1*)

As described in Section 3.2.4 above, native and naturalized plant species primarily dominate the vegetation communities within the Preserve. However, giant reed, pampas grass, sweet fennel, tamarisk, Mexican fan palm, Peruvian pepper tree, eucalyptus, and artichoke thistle are found within the northeastern and central areas of the Preserve. Artichoke thistle is currently prevalent throughout the Preserve and will hinder coastal sage scrub recovery from fire if not addressed. Additionally, giant reed is prevalent in riparian areas of the Preserve.

***Implementation Measure B.2.1*:** DPR park rangers will routinely pull weeds or remove any non-native plant species in early stages of growth found along trails. DPR will also coordinate with volunteer groups to do non-native plant species removal days at locations identified during invasive plant surveys and monitoring (as described in implementation measure A.1.3).

***Implementation Measure B.2.2*:** DPR will coordinate with other agencies, non-profit organizations, and/or volunteer groups in order to seek funding and implement removal of giant reed, artichoke thistle, and other invasive non-native plants within the Preserve.

Management Directive B.3 – Manage and minimize the expansion of invasive, non-native flora within the Preserve (*Priority 2*)

***Implementation Measure B.3.1*:** DPR will implement an educational program for Preserve visitors and adjacent residents in order to discourage introduction of invasive, non-native plants into the Preserve. Information provided will include identification of invasive plants harmful to the Preserve, and prevention methods. The program may also encourage residents to voluntarily remove invasive exotics from their landscaping. See also implementation measure D.9.1.

***Implementation Measure B.3.2*:** DPR will implement an equestrian education program regarding the potential negative impacts to native ecosystems from the accumulation of non-point source pollutants (e.g., spread of non-native seeds) on frequently used trails. This could be accomplished through a signage program/brochures and interaction between rangers and trail users. Specific signage could state, “Don’t Plant a Pest! Feeding horses weed-free feed for at

least 72 hours prior to Preserve entry helps preserve our natural environment". See also implementation measure A.4.4.

5.3.3 Fire prevention, control, and management

Current fire management activities in the Preserve include: a 30-foot fuel modification zone in the southwest corner of the Preserve where the Preserve abuts a private residence and along the southern boundary (for a short distance east of the existing gate located on the southwestern corner) where the Preserve abuts open space. Adequate emergency access roads are found within the Preserve in the form of existing dirt roads..

Management Directive B.4 – Provide for necessary fire management activities that are sensitive to natural and cultural resources protection (*Priority 1*)

***Implementation Measure B.4.1*:** The County will maintain the established fuel modification zones on Preserve property adjacent to the existing residential structures that are within 100 feet of the Preserve property boundary. The intent of a fuel modification zone is to protect habitable structures adjacent to the Preserve from wildfires. It may further protect the resources within the Preserve by absorbing some of the "edge effects" that might otherwise occur within the Preserve.

Management of a fuel modification zone, if needed, will adhere to the following guidelines:

a. Plant materials existing within the fuel modification zone will be removed 30 feet from structures down to the ground, but not disturbing the root structures and thinned for the remaining 70 feet.

b. Supplemental planting may be elected by DPR. Plant materials used shall be non-invasive and acceptable to the Rancho Santa Fe Fire Protection District.

***Implementation Measure B.4.2*:** The existing dirt roads within the Preserve acting as access roads will be maintained annually to keep the roads fuel free. In addition, DPR will continue to coordinate with CAL FIRE and/or the Rancho Santa Fe Fire Protection District to determine what improvements need to be made to make fire response feasible throughout the Preserve.

***Implementation Measure B.4.3*:** Vegetation management is not a current need within the Preserve to address wildfire issues as vegetation is continuing to recover after the 2007 Witch Creek Fire. The need for vegetation management will be assessed through implementation measure A.1.1. DPR will coordinate with CAL FIRE and/or the Rancho Santa Fe Fire Protection District to assess the future need to develop an integrated Vegetation Management Plan that will allow environmental documentation for strategic fuels management to be conducted if, and when, needed. A Vegetation Management Plan will also identify likely

locations for equipment staging areas and fire breaks, assisting fire fighting activities to avoid known cultural sites, if feasible.

5.4 Public Use, Trails, and Recreation Element (C)

5.4.1 Public Access

Management Directive C.1 – Limit types of public uses to those that are appropriate for the site (*Priority 1*)

***Implementation Measure C.1.1*:** The following public uses are prohibited in the Preserve. Park rangers are responsible for enforcing these restrictions and may call the sheriff for legal enforcement, as appropriate.

a. Off-road or cross-country vehicle and public off-highway recreational vehicle activity are considered incompatible uses in the MSCP preserve, and are therefore prohibited in the Preserve, except for law enforcement, Preserve management, and/or emergency purposes.

b. Hunting or discharge of firearms is an incompatible use in the MSCP preserve, and is therefore prohibited in the Preserve, except for law enforcement, and/or emergency purposes.

c. Poaching or collecting plant or animal species, archaeological or historical artifacts or fossils from the Preserve is generally prohibited; however, the County may authorize collecting upon approval for scientific research, revegetation or restoration purposes, or species recovery programs. In addition, impacts to historic features are prohibited except upon approval by the County.

d. Fishing, swimming, and wading in rivers, streams, or creeks

e. Camping (including homeless and itinerant worker camps)

f. Feeding wildlife

g. Domestic animals, except horses and leashed dogs

h. Smoking

i. Campfires/Open Flames

Management Directive C.2 – Manage public access in sensitive biological and cultural resource areas within the Preserve (*Priority 1*)

***Implementation Measure C.2.1*:** DPR has identified and mapped narrow endemics and critical populations, and all covered species populations in the Preserve so that these areas can be avoided and/or monitored. Updated information on sensitive species in relation to public access points will be obtained during general wildlife and rare plant surveys in conjunction with habitat monitoring (as described in implementation measures A.1.1 and A.1.2).

***Implementation Measure C.2.3*:** DPR will provide sufficient signage to clearly identify public access to the Preserve. Barriers such as vegetation, rocks/boulders or fencing may be necessary to protect highly sensitive areas. The appropriate types of barriers to be used will be determined based on location, setting and use. DPR will monitor new developments adjacent to the Preserve to enforce non-authorized trail use.

Management Directive C.3 – Provide appropriate interpretive and educational materials (*Priority 2*)

***Implementation Measure C.3.1*:** DPR will share outreach and educational information and notify the public of volunteer opportunities that advance the management, monitoring, and stewardship resources available, and objectives of this RMP. This information will be provided on the DPR website, www.sdparks.org.

***Implementation Measure C.3.2*:** Opportunities for educational trail-side signage and educational kiosks will be identified within the Preserve. In addition, signage provided at access points and on trails maps provides a form of education. See also implementation measures E.2.4 and E.3.1.

***Implementation Measure C.3.3*:** When possible, park rangers assigned to this Preserve should organize and conduct interpretative walks or programs within the Preserve discussing biological and cultural resources. During these interpretative walks or programs the ranger should distribute the "Living Close to Nature" brochure. This brochure discusses how to live in harmony with wildlife. The interpretative walks and programs should be conducted in accordance with park ranger availability.

5.4.2 Fencing and Gates

Currently, gates are located in the following areas within the Preserve (Figure 9): 1) on existing dirt road within Preserve located south of Rio Vista Road; 2) off of an SDG&E access road in the northwestern area of the Preserve; 3) on western border of Preserve off of Olivenhain Municipal Water District easement road; and 4) on southwestern corner of Preserve off of an SDG&E access road.

Management Directive C.4 – Install and maintain fencing and gates within the Preserve (*Priority 1*)

***Implementation Measure C.4.1*:** Ranger staff will install fencing and/or gates at points of unauthorized public access as appropriate. Points of unauthorized access will be identified in conjunction with trail monitoring activities (as described in implementation measure C.5.1).

***Implementation Measure C.4.2*:** Ranger staff will regularly inspect and maintain all fencing and gates within the Preserve. Fencing segments and gates will be repaired or replaced as necessary.

5.4.3 Trail and Access Road Maintenance

No public access roads are found within the Preserve and no staging area is proposed. The Preserve will only include a multi-use trail system.

Management Directive C.5 – Properly maintain trails for user safety, to protect natural and cultural resources, and to provide high-quality user experiences (*Priority 1*)

***Implementation Measure C.5.1*:** Ranger staff will monitor trails for degradation and off-trail access and use, and provide necessary repair/maintenance per the Community Trails Master Plan (County of San Diego 2005). See also implementation measure B.4.2.

***Implementation Measure C.5.2*:** If temporary closure of a trail is deemed necessary for maintenance or remediation, temporary closure actions will be accompanied by educational support, and public notification through signs and public meeting announcements. An implementation schedule should be written by DPR Operations staff when maintenance or remediation is deemed necessary.

The trail will be posted with signage that indicates temporary closure and the primary reason for the temporary closure (e.g., erosion issues, and sensitive biological resource impacts). Finally, signs should provide contact information for anyone wishing to provide input on trail use or gain additional information regarding temporary closure of trails.

Once posted, the trails in need of maintenance should be blocked with A-frame barricades and/or caution tape. Enforcement of the temporary closure of a trail would require increased ranger patrols of these areas and investigations to determine if the barriers are effective.

***Implementation Measure C.5.3*:** DPR will restore degraded habitats and reduce detrimental edge effects through maintenance and stabilization of trails and strategic revegetation. Measures to counter the effects of trail erosion may include the use of stone or wood cross-joints, edge plantings of native grasses, and mulching of the trail per the Community Trails Master Plan (County of San Diego 2005). See also implementation measure B.1.1.

***Implementation Measure C.5.4*:** If unauthorized trail formation is observed by ranger staff, those specific areas will be posted with clear signage reminding the public to remain on authorized trails. Also see management directive C.6 below.

5.4.4 Signage and Lighting

No lighting is currently present at the Preserve and is not anticipated to be installed in the future.

Management Directive C.6 – Develop, install, and maintain appropriate signage to effectively communicate important information to Preserve visitors (*Priority 1*)

Signs educate, provide direction, and promote sensitive resources and enjoyment of natural areas. Types of signs within the Preserve may include those necessary to: protect sensitive biological and cultural resources (see A.4.4, B.3.2, and E.2.4); provide educational and interpretive information (see C.3.2 and E.3.1); explain rules of the Preserve (see C.1.1 and D.2.1); direct public access (see C.2.3 and C.5.4); and, provide Preserve operations information (see A.4.3 and C.5.2).

***Implementation Measure C.6.1*:** Park ranger staff will regularly inspect and maintain all posted signs within the Preserve in good condition. Current posted signs include the following rules and regulations: Off-roading and ATV Vehicles Prohibited 41.130, Dogs on Leash At All Times 41.123(c) and No Open Flames. Signs shall be kept free from vandalism and will be repaired or replaced as necessary.

5.5 Operations and Facility Maintenance Element (D)

5.5.1 Litter/Trash and Materials Storage

Management Directive D.1 – Maintain a safe and healthy environment for Preserve users (*Priority 1*)

***Implementation Measure D.1.1*:** Trash receptacles will be provided and maintained at the main trail access. Trash receptacles should be designed to be secure from intrusion by wildlife species. Ranger staff will regularly empty trash receptacles at least once a week or more/less as deemed necessary.

***Implementation Measure D.1.2*:** The permanent storage of hazardous and toxic materials within the Preserve will be prohibited. Any temporary storage must be in accordance with applicable regulations, and otherwise designed to minimize any potential impacts.

Management Directive D.2 – Publicize and enforce regulations regarding littering/dumping (*Priority 1*)

***Implementation Measure D.2.1*:** Lists of regulations will be provided to Preserve users (e.g., posted on kiosks) clearly stating that littering within the Preserve is illegal, and will provide appropriate DPR contacts to report any littering observed.

***Implementation Measure D.2.2*:** Regulations regarding littering/dumping will be enforced by park rangers (County Code of Regulatory Ordinance Section 41.116). Penalties for littering and dumping will be imposed by law enforcement officers sufficient to prevent recurrence and reimburse costs to remove and dispose of debris, restore the area if needed, and pay for additional DPR staff time. Areas where dumping recurs will be evaluated for potential barrier placement. Additional monitoring and enforcement will be provided as needed.

5.5.2 Hydrological Management

Native habitats in the MSCP Preserve have evolved, in part, on the distribution and flow characteristics of water. MSCP Preserve property should be managed to maintain existing natural drainages and watershed and to restore or minimize changes to natural hydrological processes. Proposed structures and activities should be evaluated for effects on hydraulics, and remedial actions should be taken as needed. Best Management Practices (BMPs) should be used both within and outside the preserve system to maintain water quality.

Management Directive D.3 – Retain Lusardi Creek and its tributaries in their natural condition (*Priority 1*)

***Implementation Measure D.3.1*:** DPR will install a creek crossing where the utility access road crosses Lusardi Creek to allow for safe passage. Potential impacts to jurisdictional waters from this activity shall be identified and impacts avoided or minimized to the maximum extent practicable.

Management Directive D.4 – Install BMPs to prevent erosion where the creek runs adjacent to access roads. *(Priority 2)*

***Implementation Measure D.4.1*:** Monitor potential sites that may erode through implementation measures A.1.1 and C.5.3. If deemed necessary, install BMPs to stabilize creek banks.

5.5.3 Emergency, Safety and Police Services

The Framework Management Plan explains that the interface between current and future urban development and MSCP preserve areas requires increased coordination between the preserve managers and agencies responsible for public safety. The MSCP preserve system, including Lusardi Creek Preserve, must

accommodate access for emergency response and fire control and management. In the event that entry into the Preserve by law enforcement agencies is needed in the routine performance of their duties, use of existing roads and trails should be encouraged. In emergencies where there is a direct threat to public safety, the law enforcement agency should contact DPR whenever feasible.

Law enforcement and fire control agencies, the National Guard, the U.S. Citizenship and Immigration Service (USCIS), the Border Patrol, and organizations and agencies that respond to natural disasters shall be permitted to perform their activities within any preserve system subject to all applicable requirements of state and federal law.

Management Directive D.5 – Maintain or increase the ability of emergency response personnel to deal with emergencies within the Preserve or vicinity (*Priority 1*)

***Implementation Measure D.5.1*:** Law enforcement officials will be invited to access Preserve property as necessary to enforce the law. If it becomes apparent that extensive enforcement activities are necessary, DPR will coordinate with the applicable agencies to inform field personnel of how to minimize damage to particularly sensitive resources.

***Implementation Measure D.5.2*:** All medical, rescue, and other emergency agencies will be allowed to access Preserve property to carry out operations necessary to protect the health, safety, and welfare of the public. Access issues are further discussed in implementation measure B.4.2.

Management Directive D.6 – Provide for a safe recreational experience for Preserve visitors (*Priority 1*)

***Implementation Measure D.6.1*:** In the event of a natural disaster, such as a fire or flood, park ranger staff shall evacuate the Preserve and coordinate with the Emergency Operations Center. In addition, staff will coordinate with the local agency in charge of responding to the emergency and, if possible, assist where necessary.

***Implementation Measure D.6.2*:** DPR will develop a Site Evacuation Plan for the Preserve that will include: description of Preserve; site contacts; plan activation; evacuations; Site Emergency Response Team; Area Emergency Response; and Emergency Procedures (e.g., Africanized Honey Bees, Earthquake, Evacuation, Fire, Light Search and Rescue Guidelines, Medical and First Aid Emergencies)

5.5.4 Adjacency Management Issues

As described in Section 2.4.2, there is currently limited development immediately contiguous to the Preserve. The establishment of the MSCP preserve system does not include regulatory authority on properties adjacent to the Preserve; however, the County will require adjacent property owners to follow guidelines when planning and implementing uses and activities that can be regulated when located immediately adjacent to the site.

Management Directive D.7 – Coordinate with adjacent open space land managers (Priority 1)

Implementation Measure D.7.1: DPR will coordinate with the City of San Diego and the Rancho Santa Fe Homeowner's Association (in association with their contiguous open spaces) on an annual basis, or more regularly as needed, to ensure contiguous preserved land is managed consistently and in accordance with MSCP.

Management Directive D.8 - Enforce Preserve boundaries (*Priority 1*)

***Implementation Measure D.8.1*:** DPR will enforce, prevent, and remove illegal intrusions into the Preserve (e.g., orchards, decks) on an annual basis, in addition to a complaint basis.

Management Directive D.9 – Educate residents of surrounding areas regarding adjacency issues (*Priority 2*)

***Implementation Measure D.9.1*:** DPR will provide information on this RMP to residents adjacent to the Preserve to heighten environmental awareness, and inform residents of access, appropriate landscaping, construction or disturbance within the Preserve boundaries, pet intrusion, fire management, and other adjacency issues. This RMP will also be accessible on the DPR website and will thus be available to adjacent residents and to the general public.

5.6 Cultural Resources Element (E)

The goal of this section of the RMP is long-term preservation, public interpretation of the cultural resources, and interaction with the bands in whose traditional tribal territory this preserve exists.

Management Directive E.1 – Identify, record, and assess the significance of cultural resources within the Preserve in areas over 20% slope (*Priority 2*)

***Implementation Measure E.1.1*:** Inventory all Preserve lands over 20% slope for cultural resources. Cultural resources include historic structures, features, and landscaping, as well as historic and prehistoric archaeological sites, features, and

artifacts. Inventories shall include a record search at the South Coastal Information Center, SDSU, and on-foot field survey, as well as pertinent archival and historical research.

Any cultural materials collected from the preserves will be curated at a qualified curation facility. No removal or modification of cultural resources shall occur without written approval by the Director of Parks and Recreation.

***Implementation Measure E.1.2*:** Identify and record sites in those areas of the Preserve that were not accessible during the initial Phase I cultural resources survey.

***Implementation Measure E.1.3*:** Assess each newly identified cultural site within the Preserve for eligibility as a Historical Landmark, and to the California Resources Historic Register/National Register of Historic Places.

Management Directive E.2 – Preserve and protect significant cultural resources to ensure that sites are available for appropriate uses by present and future generations (*Priority 2*)

***Implementation Measure E.2.1*:** Threats to the cultural resources from natural (e.g., fire, erosion, floods) or human-caused events shall be identified, and impacts prevented, reduced, eliminated, or adverse effects mitigated. Threats could include movement of resources after a heavy rain/flood or due to erosion after a fire event. Fire suppression activities could also threaten resources. Avoidance or mitigation measures will be identified if impacts are caused by future projects within the Preserve.

***Implementation Measure E.2.2*:** The condition and status of cultural resources shall be noted as part of routine monitoring activities conducted once a year and remedial measures shall be taken if damage is noted. Monitoring activities should also photo-document site conditions so that comparisons can be made over time. Any monitoring of the sites in the Preserve should follow the guidelines found in the County of San Diego *Report Format and Content Requirements, Cultural Resources: Archaeological and Historical Resources* (2007).

All site location information will be kept strictly confidential, and will be available only for qualified cultural resource staff and land managers. Site locations will not be shown on maps or divulged to the public.

***Implementation Measure E.2.3*:** All management activities within the Preserve including, but not limited to, trail construction and maintenance, placement of fencing and gates, and restoration of habitat will take into consideration potential impacts to cultural resources and shall avoid adverse impacts to any cultural resources to the maximum extent possible. No ground disturbing activities will be allowed on or in any cultural resource site within the Preserve until the impacts have been assessed.

For those sites already evaluated and determined not significant, no further action is required.

If avoidance of significant sites is not feasible, appropriate mitigation measures will be established. Removal or disturbance of cultural resources shall not occur prior to completion of an approved mitigation program, such as data recovery or recordation. Preservation in place is the preferred mitigation measure.

***Implementation Measure E.2.4*:** Signs shall be posted at all trail heads and throughout the Preserve to notify users that sensitive cultural resources within the Preserve cannot be damaged and that removal of any archaeological material is prohibited by law. Protection and preservation of cultural resources will comply with County of San Diego ordinances (Title 4; Public Property, Division 1; Parks and Beaches, Article 2, Section 41.113), and applicable state and federal laws, which will be enforced by park ranger staff. These signs shall be maintained as described in implementation measure C.6.1.

The County will ensure that park ranger staff has sufficient training through the DPR Ranger Academy to actively protect archaeological sites from vandalism and other forms of human impact. If a Preserve user is suspected of vandalism to cultural resources, the appropriate law enforcement authorities shall be notified. More aggressive measures may be needed if vandalism and damage continue or increase.

Management Directive E.3 – Promote the beneficial uses of cultural resources through interpretation and educational programs (*Priority 2*)

***Implementation Measure E.3.1*:** Off-site, and when possible, on-site interpretive programs for Native American heritage, local and regional history, and prehistory will be developed for the Preserve. These may include lectures, walks, kiosks, signs, historic brochures, and displays, but will not include excavations, collecting of artifacts, or disclosure of confidential site locations unless an interpretive plan is developed and approved by the Director of Parks and Recreation. The plan will include supervision by a qualified archaeologist approved by the Director of Parks and Recreation. See also implementation measures C.3.1-3.

Management Directive E.4 – Honor Native American Heritage and promote Native American ceremonies, gathering, and cultural practices (*Priority 2*)

***Implementation Measure E.4.1*:** Consultation with the San Pasqual Band of Mission Indians shall be conducted frequently in order to identify appropriate management of pre-contact and ethnographic cultural resources. All tribes will be encouraged to participate in evaluation, recordation, protection and preservation of cultural resources.

***Implementation Measure E.4.2*:** The County will open the Preserve to traditional uses by the San Pasqual Band of Mission Indians. All activities by Native Americans in the Preserve shall be conducted with a Right-of-Entry permit specifically designed for the Preserve.

6.0 REFERENCES

Bat Conservation International (BCI). 2008. Bat Species Profiles. Last revised: 2008. Available: http://www.batcon.org/SPprofiles/index.asp. Accessed: 10/17/08

Bond, Monica and Curt Bradley. 2003. *Impacts of the 2003 Southern California Wildfires on Four Species Listed as Threatened or Endangered Under the Federal Endangered Species Act: Quino checkerspot butterfly; Mountain yellow-legged frog; Coastal California gnatcatcher; Least Bell's vireo*.

Bontrager, David R. 1991. Habitat requirements, home range and breeding biology of the California gnatcatcher *(Polioptila cah; fornica)* in south Orange County, California. Unpublished report prepared for Santa Margarita Company, Rancho Santa Margarita, California.

California Department of Fish and Game (CDFG)*. 2005. California Wildlife Habitat Relationships System (CWHR), version 8.1 personal computer program. Sacramento, CA: California Department of Fish and Game.*

California Native Plant Society (CNPS). 2008. Electronic Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Sacramento.

California Regional Water Quality Control Board. 2003. The California Regional Water Quality Control Board website: http://www.swrcb.ca.gov/rwqcb9/programs/basinplan.html

Campbell, K.F., R.A. Erickson, W.E. Haas, and M.A. Patten. 1998. California Gnatcatcher use of habitats other than coastal sage scrub: conservation and management implications. Western Birds 29: 421-433.

City of San Diego. 1998. Final Multiple Species Conservation Program: MSCP Plan.

Cooley, Theodore and Stacey Jordan. 2008 *Cultural Resources Phase I Survey and Inventory, Lusardi Creek Preserve, San Diego County, California.* On File, County of San Diego, Department of Parks and Recreation, History Archives.

County of San Diego. 2005. Community Trails Master Plan. http://www.co.san-diego.ca.us/reusable_components/images/parks/doc/tocrev.pdf.

County of San Diego. 2001. Framework management plan for the Multiple Species Conservation Program (MSCP) South County Subarea Plan.

County of San Diego. 1997. Multiple Species Conservation Program: County of San Diego Subarea Plan.

Dudek and Associates (Dudek). 2000. Sensitive Species Accounts for the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP).

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California Department of Fish and Game, Non-game Heritage Program, Sacramento.

Jennings, M. R., and M. P. Hayes. 1994. Amphibian and reptile Species of Special Concern in California. Final report submitted to California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California, under Contract 8023.

Keinath, D. A. 2006. Anabat call key for greater Yellowstone ecosystem. http://uwadmnweb.uwyo.edu/WYNDD/Bat_Call/Anabat%20CallKey3.pdf

Lemm, J. 2006. *Field Guide to Amphibians and Reptiles of the San Diego Region* (California Natural History Guides). University of California Press.

McGurty, B. M. 1980. Preliminary review of the status of the San Diego horned lizard, *Phrynosoma coronatum blainvellei* and the orange-throated whiptail, *Cnemidophorus hyperythrus beldingi*. Inland Fisheries Endangered Species Program Special Publication, California Department of Fish and Game.

May, Ronald V., and Richard L. Carrico. 2001. *The Roeslein Homestead on the San Dieguito River: A Test at CA-SDI-316 for Local Patterns of Glocallization in a Rural California Agricultural Community*. On file at ICF Jones & Stokes, San Diego, California.

Norwood, Richard H. 1980. *The Archaeological Resources of Fairbanks Ranch, Rancho Santa Fe, California.* Unpublished Report prepared by RECON and on File at South Coastal Information Center at San Diego State University.

Regan,H., L. Hierl, J. Franklin, and D. Deutschman. 2006. Grouping and Prioritizing the MSCP Covered Species. Technical Report prepared for the California Department of Fish and Game. San Diego State University. San Diego, CA.

Salley, Harold E. 1977. *History of California Post Offices, 1849-1976.* 1st ed. Post History Associates, La Mesa.

San Diego City Directories. 1903. San Diego City and County Directory. On file at the California Room, San Diego Central Public Library.

San Diego County Flood Control District. 2007. http://www.sdcfcd.org/.

San Diego Historical Society. n.d. The Lusardi Brothers. From San Diego County Pioneer Families: A Collection of Family Histories Compiled by Members and Friends of the San Diego Historical Society. Article copy on file at the office of County of San Diego Department of Parks and Recreation, History Archives.

Schultze, Carol, Delman James, Scott Campbell, and Elvin Smith. 1992. California Department of Parks and Recreation site form for CA-SDI-13,049. On file at the SCIC, San Diego State University, San Diego.

Smythe, William E. 1908. *The History of San Diego 1542-1908*. The History Company, San Diego.

Stebbins, R.C. 2003. *A Field Guide to Western Reptiles and Amphibians, Third Edition*. Houghton Mifflin Company, Boston, Massachusetts.

Strand, R.G. 1962. Geologic map of California: Sand Diego-El Centro Sheet. Olaf P. Jenkins Edition. California Department of Conservation, Division of Mines and Geology. Scale 1:250,000.

U.S. Department of Agriculture. 1973. Soil Survey, San Diego Area, California. Washington, DC: U.S. Dept. of Agriculture, Soil Conservation Service [now Natural Resources Conservation Service] and Forest Service.

U.S Fish and Wildlife Service (USFWS). 2008. Draft San Diego Multiple Species Conservation Program Animal Monitoring Protocols. Prepared for the City of San Diego Department of City Planning and Community Investment.

_____. 1993. Endangered and threatened wildlife and plants: Special rule concerning take of the threatened coastal California Gnatcatcher. Final Rule. Federal Register 58: 65088-65096.

Unitt, P. 2004. *San Diego County Bird Atlas*. Proceedings of the San Diego Society of Natural History 39: i–vii, 1–639.

Van Wormer, Stephen R. and James D. Newland. 1992. *Historical and Architectural Assessment of a House at 9860 Del Dios Highway.* Copy on file at the office of County of San Diego Department of Parks and Recreation, History Archives

Whitaker, J.O. 1996. The Audubon Society Field Guide to North American Mammals. Revised and expanded. A.A. Knopf. New York.

Zeiner, D. C., W., F. Laudenslayer, Jr., K. E. Mayer, M. White. Editors. 1990. California's Wildlife. Volume 2. Birds. State of California, Department of Fish and Game. Sacramento, California. 731 pp.